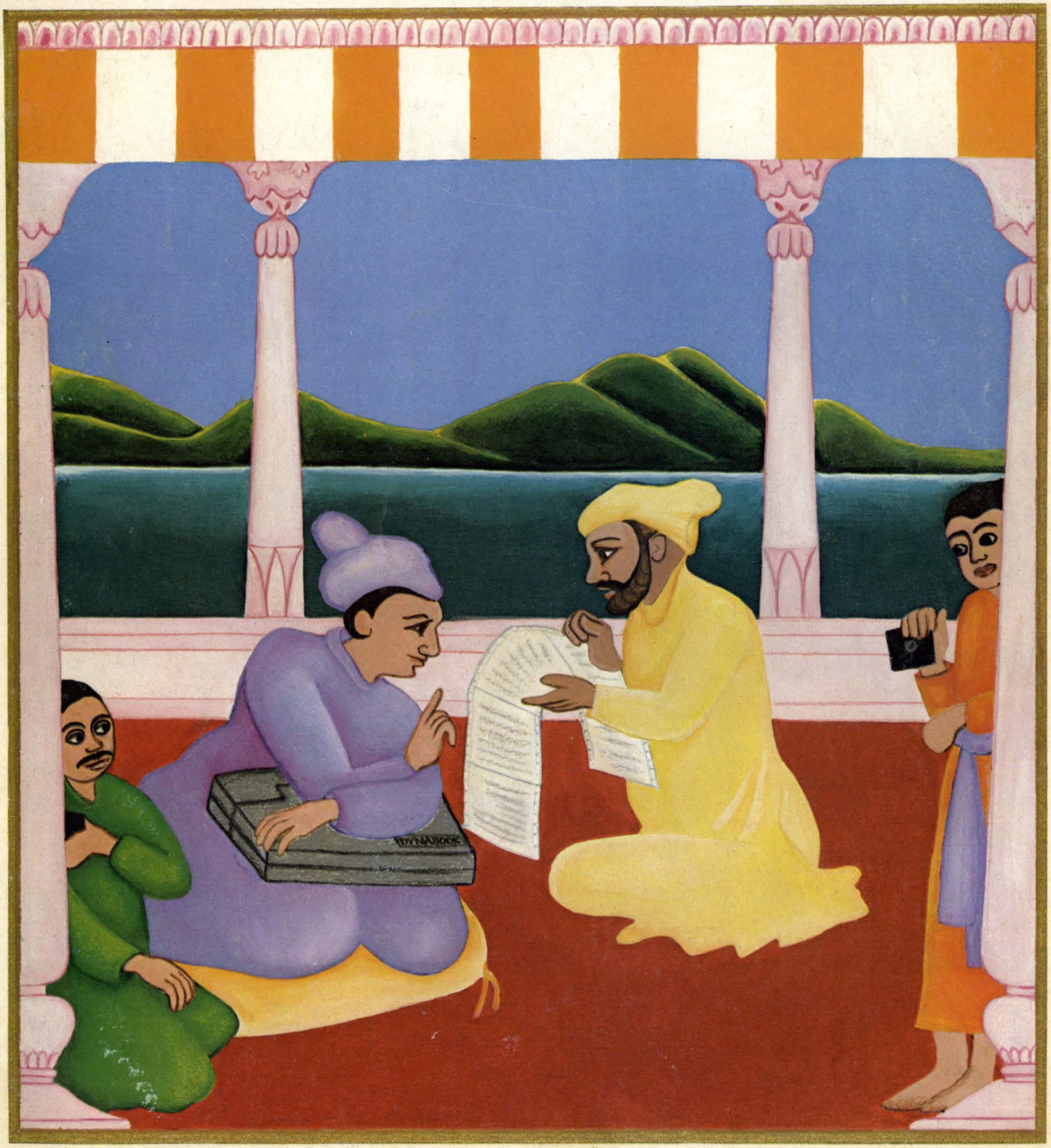
No. 16
$4.50

User's Guide™

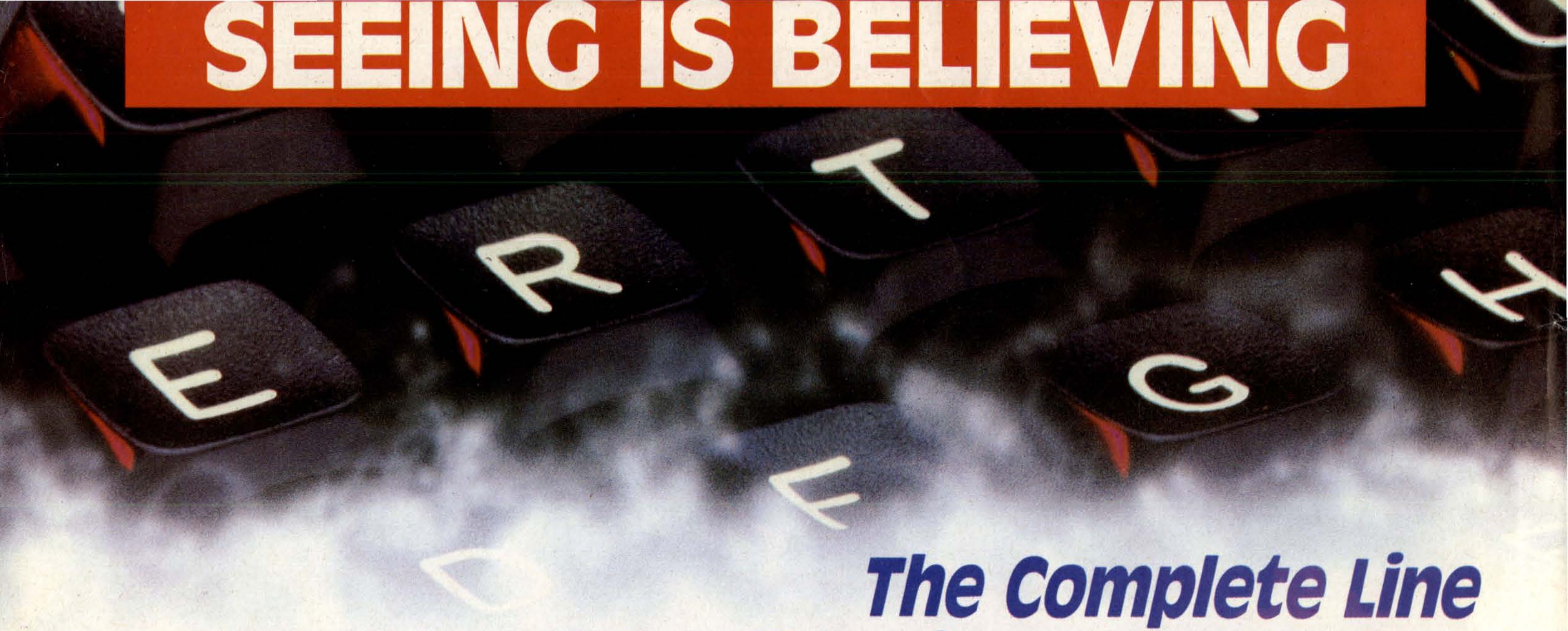
THE MAGAZINE FOR CP/M & MS-DOS COMPUTER USERS

- dBASE Report: Recovering Lost Data
- Electric Oracle
- Using Spellbinder
- Outlining With Questext



"Nala in Council with Poets and Scholars" is from the Nala-Damayanti Series, Pahari-Kangra, ca. 1810-1814. Adapted for modern poets and scholars by Sahnta Pannutti.

SEEING IS BELIEVING



The Complete Line of Small Business Computers

KAYPRO NEW 2

This small business computer provides: • A disk drive capable of storing 392K • A 9" green screen • Familiar typewriter-style keyboard with numeric pad • Connections for printer, modem, etc. • Software: WordStar,® M-Basic,™ CP/M™ 2.2, and Games • Optional Kaypro New 2 Upgrade Kit ($495) includes: A second disk drive and a complete software package.

$995 COMPLETE

KAYPRO 2X

The Kaypro 2X, the professional business computer, comes with: • Dual disk drives providing 784K (400 pages) of storage • An easy-to-read, green screen • Familiar typewriter-style keyboard with numeric pad • A 300 baud modem • Real time clock / calendar • A complete bundle of business and personal software including: WordStar,® The Word Plus,™ DataStar,™ ReportStar,™ Mailmerge,® CalcStar,™ Microplan,™ M-Basic,™ C-Basic,™ S-Basic,™ CP/M™ 2.2, and Mite.™

$1595 COMPLETE

KAYPRO 10

The Kaypro 10, the hard disk business computer, is complete with: • 10 megabyte hard disk capable of storing an astounding 5000 pages of data • Plus a 392K (floppy) for extra storage and hard disk back-up • A large, non-glare monitor • Familiar typewriter-style keyboard with numeric pad • Built-in modem • Real time clock / calendar • The same powerful package of ready-to-run software as the Kaypro 2X, plus dBASE II™ data base management already installed on the hard disk.

$2795 COMPLETE

KAYPRO Robie

The Robie takes up less than half the space of a standard desk-top computer, but it's worth its weight in performance: • Two disk drives providing 5.2 megabytes of storage • Non-glare monitor • Built-in modem • Typewriter-style keyboard • And the same powerful package of software that's included with the Kaypro 10.

$2295 COMPLETE

Ask about the **Kaypro** Quick Credit Plan. You can finance a **Kaypro** computer for as little as **$38 per month.**

KAYPRO®
CORPORATION

For your nearest KAYPRO dealer, call TOLL FREE 1-800-4KAYPRO • In California, 1-800-9KAYPRO

Trademarks: CP/M, C-Basic, Digital Research, Inc.; The Word Plus, Oasis Systems; Mite, Microft Labs; S-Basic, Kaypro Corporation; Microplan, Chang Labs, Inc.; M-Basic, Microsoft, Inc.; WordStar, Mailmerge, ReportStar, DataStar, CalcStar, MicroPro International; dBASE II, Ashton-Tate.

Circle number 12 on the reader service card.

The Osborne Vixen: Official Computer of TeamTennis and the Association of Professional Triathletes

YES, I want to know more about the Vixen, Osborne's newest computer.

Osborne Computer
Corporation
42680 Christy Street
Fremont, CA 94538

Name ______________________________

Address ______________________________

City ______________ State ______________ Zip ______________

Phone number (   ) ______________________________

Citizen MSP-10 printer has been chosen as the official printer of TeamTennis.

OSBORNE

Circle number 16 on the reader service card.

User's Guide™

Number 16 (Volume 3.4) **August 1985**

Tony Bove & Cheryl Rhodes
PUBLISHERS & EDITORS

Steve Rosenthal, Kelly Smith,
CONTRIBUTING EDITORS

John Barry, Dana Blankenhorn,
Benjamin Cohen, Thomas Howe,
Miriam Liskin, Byron McKay,
Bruce Morgen, Arthur Naiman,
Jonathan Sachs, Bob Wolff
WRITERS

Sahnta Pannutti
DESIGNER

April Kepler
ART & PRODUCTION

Annie Warren
ADVERTISING SALES

Julie Swanson, Kathy Slusser
CIRCULATION

Jennifer Oppenheimer
ADMINISTRATION

Hugh Daniel, Dorothy Hays
RESEARCH

Martha Bowling, Shannon Essa,
Dan Shoemaker, Dan Rosset
OFFICE

User's Guide , ISSN 0747-8534, is published six times a year by TUG Inc., Box 5245, Redwood City, CA 94063, (415) 364-0108. Second-class postage paid at Redwood City, CA 94063 (USPS 689-550).

Entire contents Copyright © 1985 by TUG, Inc. All rights reserved. Reproduction of material appearing in *User's Guide* is forbidden without explicit permission. Send all reprint requests to Reprints, User's Guide, Box 5245, Redwood City, CA 94063.

SUBSCRIPTION INFORMATION:
Single copy price $4.50 ($6.00 foreign or U.S. first-class). Subscription for six issues (one year) is:
U.S. — $21 if payment accompanies order, $25 if subscription is billed (second class). Add $10 for first-class delivery.
CANADA & MEXICO — $27 in U.S. currency drawn on a U.S. bank, or international postal money order; payment must accompany order (second class). $35 for first-class delivery.
FOREIGN — $40 for air mail subscription. Payment (U.S. currency drawn on a U.S. bank, or international postal money order) must accompany foreign orders.

Inquiries about bulk, retail sale, and group rates are encouraged. Address inquiries to Circulation Dept., **User's Guide, Box 5245, Redwood City, CA 94063.** Allow 6-8 weeks for processing of order.

POSTMASTER: Please send address changes (Form 3579) to User's Guide, Box 5245, Redwood City, CA 94063.

CP/M and CP/M-86 are registered trademarks of Digital Research, Inc. IBM is a registered trademark of International Business Machines. MS-DOS is a trademark of Microsoft. WordStar and MailMerge are trademarks of MicroPro, Intl. Spellbinder is a trademark of Lexisoft. Turbo Pascal is a trademark of Borland International.
User's Guide and Impatient User's Guide are trademarks of TUG Inc.
User's Guide (TUG Inc.) is not affiliated with Digital Research, Microsoft, or any hardware or software manufacturer or distributor.

CONTENTS...

EDITORIAL 4

FREE SOFTWARE

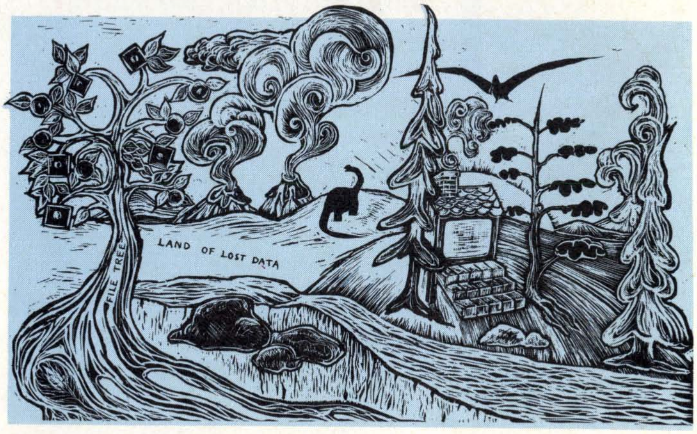
PC-FILE: a Filing System For Keeping Data Records 6
by Ben Cohen
An in-depth tutorial on this user-supported (free) data base management system for CP/M as well as PC users.

ELECTRIC ORACLE

Selected and Sought-after Software Solutions 16
by Byron McKay
A new column of questions answered by the Delphic Dealer himself, a founder of PicoNet and FOG, and the Bard of the BBSs.

dBASE REPORT

Losing Data? 46
by Miriam Liskin
If you have a file with missing data, or problems with closing two files properly, use these techniques to recover the data.



Issue 16 (Vol. 3.4)

ADVANCED USER

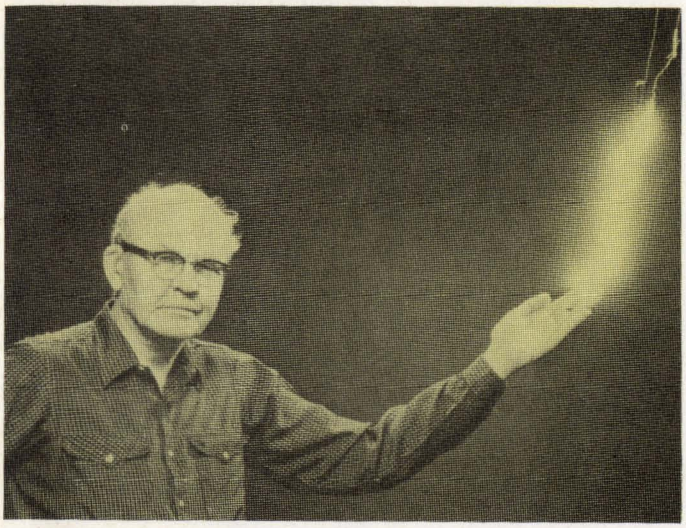
Enhancing Your System and Managing User Areas 62
by Bruce Morgen
For ZCPR-like performance, check out the no-installation-required XCCP, and the SETDRU, PUBlic and DateStamper user area tools.

SLEAZE PATROL

Naiman Gets Down To Cases 68
by Arthur Naiman

BOOKS

The Inventors of the Chip 73
by John Barry



OVERVIEW

Welcome to Spellbinder 24
by Thomas Howe
A powerful word processing program that resembles dedicated word processing equipment, with extra macro-programmability.

TUTORIAL & REVIEW

A Quick Tour of Spellbinder 26
by Thomas Howe
An impatient user's guide to Lexisoft's Spellbinder — hands-on instructions spiced with review comments.

TUTORIAL

Spellbinder File Conversions 34
by Thomas Howe
Converting WordStar files to Spellbinder and back again.

TUTORIAL

ESP: Surviving BASIC Without Program Listings 48
by Roy J. Lipscomb
Being a programmer and getting along without paper listings, or how to get your BASIC program to remember itself.

REVIEW

Questext III 58
by Dana Blankenhorn
If you use outlines for any reason, even to sell used cars, check out this inexpensive outlining program and template package.

`B‹enter› ‹esc›`
`‹rgt›‹rgt›‹ctrlk›`

APPLICATION

Make WordStar a Superstar With Prokey 40
by Gary Nored
A set of Prokey assignments turn WordStar into a super performer.

ANNOUNCEMENTS

New Products 54
MICRO USER'S MARKET 76
ADVERTISER INDEX 25

Typefaces

We use `this Typeface` to show commands and expressions you type at your keyboard, and `this typeface` to show displayed messages.

In summaries we use *italics* along with `this Typeface` to show optional parts of commands and expressions. Keywords are usually in UPPER case letters, with your words and data in Upper/lower case.

We also use the symbol ↵ to represent the standard Return key (CR or ENTER on some keyboards), and the caret symbol ^ to represent the Control key (CNTL, CTRL or ALT on some keyboards).

Legislating Support

The only sign of trouble for this large showcase San Francisco store of a well-known computer retail chain was when it closed down for a weekend when sales are usually high. A short time later the store owner/franchisee disappeared, and the store closed. Chased out by angry customers, IBM grey-market untouchables, or the DEA? The only clues were the lack of sufficient inventory to stock the shelves, and a rumor about IBM finding something wrong in the store's operations (IBM has been cracking down on retailers who sell excess inventory to "grey market" resellers who sell at outrageous discounts).

An isolated tale of woe, or a pattern of declining sales and stores going out of business? More to the point: can you expect after-sales support from a store that may go out of business tomorrow?

There is no doubt that sales have slowed down drastically compared to last year's sales and last year's projections for this year. The largest computer store chains are doing well, but the local hacker's independent computer store has almost vanished. Independents that survived did so by becoming VARs (value-added resellers) or VADs (value-added dealers). Chains are also getting in on the profits to be made by "adding value" — in many cases, this means adding after-sales support as well as software to handle specific applications.

You consumers ultimately benefit by this trend because you can now buy complete systems packaged with application software and application notes, not just a computer and a promise of "lots of off-the-shelf software." So it seems that resellers are responding to the margin crunch that occurs when manufacturers lower their prices to move inventory. Even the largest manufacturers cannot provide the level of support needed for people to make good use of their machines, so intelligent dealers are trying to fill this vacuum and make a profit on it. However, the industry is not moving fast enough in this direction, so the lawyers are pushing for legislation to require adequate support, starting in the state known for its "beta-testing" of new ideas: California.

This month the CA State General Assembly passed a bill that requires retailers and manufacturers to increase the amount of information they provide to consumers in both advertising and product packaging. Retailers and manufacturers are required to be more specific about a product's capabilities and to warrant most oral communications for up to a year after the purchase. The bill has not cleared the State Senate, but it seemed likely that it would.

A spokesperson for the Association of Better Computer Dealers said "this is what happens when the industry doesn't pay attention," and conceded that he wouldn't want to be a computer retailer in California right now. The ABCD predict that such legislation will be drawn up in other states very soon, particularly in Minnesota and New York.

From the perspective of someone who recently bought a PC or CP/M computer with little more documentation than an operating system reference manual, this bill sounds like it might do some good. The intent is to force manufacturers to provide more documentation, but the end result will surely be that more retailers will switch to the value-added business.

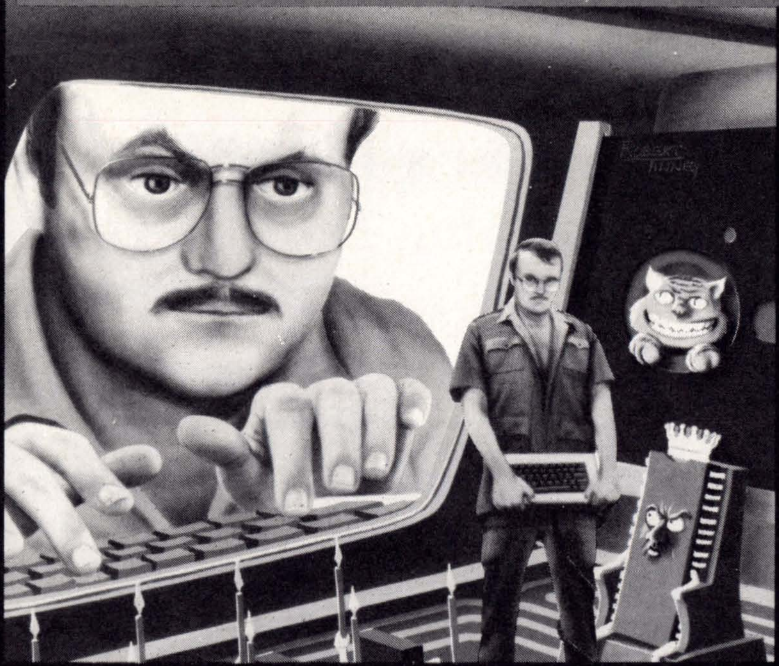
If manufacturers tried to provide more support, the price would inevitably be higher and the cost to get into the game higher, meaning less manufacturers and less competition. However, the pressure of recall would help make better products, because cheap ones would have to be recalled if they didn't meet the rigid specifications.

Retailers will take advantage of the trend by becoming "VAR-ish" and adding value to the poorly-documented equipment and software. They can make a decent profit by charging for custom setups, specialized software, application notes, how-to magazines and books, special warranties, and whatever else the public needs to make computers useful.

People will always buy from discount "grey market" distributors unless they are somehow legislated out of existence, so the bill should not affect your ability to buy discounted equipment. It may change the way your local computer store does business — to your advantage. It casts new light on the issue of support and whether or not consumers have a right to demand that computers be more useful to them. We think consumers have such a right, and that the industry must be prodded into moving in this direction.

tb & cr

??WHO IS THIS MAN??



HE IS—

"A Brand-Name Show Stopper"
—*INFOWORLD*

"The Dean of Computer Columnists"
—*SAN FRANCISCO CHRONICLE*

"Challenging, articulate, and always opinionated...
followed by a
growing band of energized users...Jerry makes us think about how the wonderful
machines will change our lives and shape our future."
—*POPULAR COMPUTING*

"His 'Users Column' has been one of *Byte* magazine's most
popular columns for years...he states his opinions fully, without compromise,
and in a lively colloquial style...no one could copy his style."
—*BYTE*

HE'S ALL THAT AND MORE—HE'S AMERICA'S #1 USER!

JERRY POURNELLE

AND HE'S BACK, MORE POPULAR THAN EVER, IN

ADVENTURES IN MICROLAND

For everyone who read *The Users Guide to Small Computers*
and now just has to have more of the wit and wisdom
of America's Number One User, here it is!

July • 55980-0 • 416 pp. • $9.95

BAEN BOOKS

Distributed by Simon & Schuster Mass Merchandise Sales Company
1230 Avenue of the Americas • New York, N.Y. 10020

Circle number 3 on the reader service card.

PC-FILE: a Filing System For Keeping Data Records

There are many useful application programs in the public domain, including two good data base management programs: PC-FILE and DIMS (Dan's Information Management System). They may not compare to commercial programs like dBASE II® (Ashton-Tate), but they can do some applications better than the costly commercial ones, and in most applications they perform well enough to consider them (remember, they're free).

This issue we'll go through PC-FILE in depth. There is not enough space to cover DIMS in this issue (as promised), but you'll get the full story on DIMS in a lengthy tutorial next issue by Dan Dugan, the author of DIMS. At the same time I'll have a review of DIMS in the next issue.

PC-FILE is a file management program. It was created by a Seattle area man who worked for IBM. The program was written for the IBM PC, but a version of it was also created for the Osborne 1 that can run on any CP/M system. This article describes the CP/M version.

The author of PC-FILE distributes it only in Osborne 1 single-density and North Star disk formats (in addition to MS-DOS). I have PC-FILE running on an Osborne Executive with CP/M Plus, and running on a TRS-80 Model 4 with CP/M Plus. I expect that it will run on most any CP/M system, though I can't be sure.

Although PC-FILE was set up for an Osborne 1, that does mean that the data displays are limited to fit within the Osborne's 52-column display. If you are using an Osborne, PC-FILE is easy to get along with. There is no disadvantage if you use PC-FILE with an 80-column screen — you'll simply see another 28 columns of information on your 80 column screen.

PC-FILE is "user supported". The author, who uses the *nom de plume* Jim Button, distributes the software freely, hoping that users will like it, and requests a $35 contribution from those who find it useful.

Copyright © 1985 Benjamin Cohen

What is PC-FILE?

PC-FILE is not a "data base management system" or a "relational data base". It's fairly simple and limited, especially in the Osborne-CP/M version. It can sort on multiple fields at one time. It can create new "cloned" data bases containing a part of an existing data base. It can also print reports.

When cloning a new data base or making a report, you can select all of the records in the data base, or all those greater than, less than, equal to, or different from, a particular value. PC-FILE can't select for one report all records for which the field LASTNAME is greater than `Hz` but less than `La`.

PC-FILE doesn't do computations within files. You can't enter a quantity field and a unit price field and have PC-FILE compute the product in another field. PC-FILE can give you the total of all the records in a particular field when you ask for a report.

Overview of Data Base Terms

Working with data bases requires understanding of a few commonly used terms. (If you already know about this, skip to the next heading.) The basic unit of information in a data base is a *field*. A field is one item of information about something, or someone. In a customer list, each customer's name is a field. Individual customers may have separate fields for first name and last name. Address would be another field. I have a list of the electrical outlets in my house. The fields are circuit number, floor, room, and location within room.

All of the fields that go together about one customer in a customer list, or about one electrical outlet in my data base of electrical outlets, are called a record. Each record contains one of each field in that data base. All of the records in the data base are called a file.

PC-FILE Restrictions

The CP/M version of PC-FILE requires 64K RAM and one disk drive. The documentation says it supports only two disk drives, but actually you can have up to 4 drives, A through D. The two programs PCFILE.COM and PCSORT.COM have to be on one drive and all the data files have to be on one drive.

Each record must be not more than 254 bytes long. You can have as few as one field, or as many as 37. If you have more than 18 fields in a record, you should limit the length of the longest field to 25 characters (or if you read another section of the documentation the field length should be kept to 25 characters for the first 19 fields if you exceed 19 fields). If you're adventurous, you might check this out! Otherwise you can have a field as long as 99 characters.

Field names are limited to 12 characters. PC-FILE can handle up to 1500 records, if you want to be able to sort them. You can (subject to disk capacity) enter more than 1500 records in a file; you just won't be able to sort them. This limitation is imposed by memory. You can sort on up to 10 fields at one time, subject to memory limitations. More on that later.

Version 9.0 of PC-FILE for MS-DOS requires 96K RAM on DOS 2.00. Earlier versions only required 64K. Disk storage of 320K is recommended. Each record can have 41 fields with up to 65 characters per record, but, if you have more than 22 records the maximum is 22 characters per field.

With 128K RAM systems you can have 4000 records in a data base. With 64K RAM you are limited to 2000 to 3000.

File Structure

When you use PC-FILE you first set up a file structure. You tell PC-FILE how many fields you want to have in your data file and how long you want each field to be. You can change this later by cloning the data file.

An example of a data file I set up in PC-FILE is a list of folk and other songs and miscellaneous things like humor that I have on records and tapes. I'll want to list the title, performing artist, the number of the album or cassette, and the name of the show it's from.

Before defining the file structure, I review my records and tapes. "New Lost City Ramblers" is 22 characters. I'll allow 25 and abbreviate if any name runs longer. I don't know if I have a recording of "Does the spearmint lose its flavor on the bed post overnight?", but I'm sure I'll need quite a few characters for the song titles. For the sake of brevity I can assign each record and tape a number. I'll allow four digits, though I am far from reaching 500 of them, much less a thousand or 9999. Let's allow 15 for the name of the show.

The review process helps me define my fields:

Performer	35
Name of Song	48
Media #	4
Name of Show	15
Record Label	10
Number	12
Total	124

How many songs can I put in this data base before I run out of disk space? My Osborne has 183K bytes per disk. SONGS will have three files, SONGS.DTA, the data file, SONGS.HDR, the header that describes the structure of the data base, and SONGS.INX, the index to the ".DTA" file. SONGS.HDR will be 1K bytes long. (On your system the minimum file size may be larger. If so, more space will be assigned to SONGS.HDR.)

The SONGS.INX will take up space, too. To find out how much, multiply the number of fields by two and add 4. This is the number of characters in an index record. Multiply this by the number of records in the file and round up to the nearest increment of space that your system allocates. SONGS.INX will have 6 fields, so the "magic number" is 16. With 1,000 records, SONGS.INX would have 16,000 characters and have 16K bytes allocated for it.

To get mailing labels from PC-FILE, pad out the report format to the number of lines on your labels, and add a "/" as the last field at the end of the report format.

Last, but certainly not least, the ".DTA" file will have for each record (that is, for each song) one more byte than the length of the sum of the field lengths. That's 125 bytes per record. We had 183K bytes to start with, the header reduced that to 182K, and the index file for 1000 records took up 16K bytes, leaving us with 166K bytes for data. 1500 records x 125 bytes is 187,500 bytes or over 183K bytes. That's too much. I'll cut one or two fields so there will enough space or cut out a field, if possible.

Make these calculations for your data base before you start out. Although PC-FILE will let you change your setup afterwards, it can be time consuming, troublesome, and embarrassing if you have to go through hundreds of entries to shorten entries by editing and abbreviating, simply because you ran out of space at 900 records and you have another 150 records to enter and no space for them on the disk.

Picking Field Names

There's an art to picking PC-FILE field names. You select a field for modification, sorting, or other purposes by typing only as much of the field name as is necessary to uniquely indicate that field. Looking at my SONGS data base I've made my work hard — to differentiate between "name of song" and "name of show" I'll have to type in 10 characters! If I simply enter `n`↵, PC-FILE will pick the first field beginning with that letter. It's when I *don't* want the first of the two fields that I'll have problems.

Changing to "song name" and "show name" would cut that to two characters. If I change "song name" to "title" I can choose which field I want by entering a single character. I still have "name of show" and "number" to contend with. "Name of show" can become "show name". My new list of fields is Performer, Title, R/C, Show, Label, and Number. When you pick your field names, try to set up the data base with each field name starting with a different character.

There's an art to picking PC-FILE field names. You select a field for modification, sorting, or other purposes by typing only as much of the field name as is necessary to uniquely indicate that field.

Numeric Fields

To designate a "numeric" field you enter a `#` symbol at the end of the field name. This has two planned and direct consequences. First, you can't enter anything but numeric values in the field. On a mailing list you won't be able to put the state name in the zip code field if you make it a numeric field.

The second planned direct consequence of putting a `#` at the end of the field name is that when you generate a report the field will be totalled at the end of the report. Why you want to know the total of the zip codes of your customers is beyond me!

Be wary of making a field a numeric field. When you do this you prevent yourself from taking advantage of one of the neat features of PC-FILE. When you are entering data use of the apostrophe alone in a field repeats the entry from the previous record in that field. If the zipcode of the current record is the same as the zipcode of the last record, you could enter an apostrophe instead of the five digit code, but not if you have made the field a numeric field, since the apostrophe is not a number.

Changing Field Names

After all that lecturing on field names, it really doesn't matter much what field names you choose. You can change them whenever you want to, simply and easily. One of the entries in the main menu that you'll get to after we create our first data base is option 9, `alter a field NAMe`. Choose that option and PC-FILE will ask you which field name you want to change. You type enough of the name to differentiate it from any other field name, press Return (↵), and then enter the new name.

Suppose you were careless enough to enter two identical names. You want to change the *second* one. Even that's easy, though it takes three steps. Just remember that whenever you are selecting a field PC-FILE picks the first one that it finds that matches your description.

Assume two fields called `ADDRESS`. We want to change the second one to be `HOME ADDR` without changing the first name. You can't do it directly. First change `ADDRESS` to any other name that isn't duplicated on the list above `ADDRESS`. Then change the second `ADDRESS` to `HOME ADDR`. Then change the first old `ADDRESS` field name back to `ADDRESS` . You'll probably be able to do it faster than I can describe it!

Using PC-FILE

PC-FILE comes with an auto-start program called AUTOST.COM. I don't think AUTOST.COM runs on systems other than the Osborne 1, but most CP/M systems should have a way to start a program automatically upon a cold boot. If you don't auto-start PC-FILE, you follow the usual procedure at the `A>` prompt:

```
A>PCFILE↵
```

The program loads and asks you:

```
Which drive (A, B, C, D) for the data:
```

I assume that you have the program disk in drive A and a disk with plenty of free space ready in drive B, so you type `B`↵. A fresh screen comes up. At the top it says:

```
These files are defined:
```

Just under that it displays the names of any existing files that have file extensions in a set indicating that they are PC-FILE index, header, and data files. If this is your first session, there won't be any filenames displayed. Later, when you come back to work with an existing data base you'll simply enter the name of the data base (without the ".DTA" filename extension). This convention is followed throughout PC-FILE — you never type an extension, PC-FILE always picks one for you.

PC-FILE has some peculiar limitations on filenames. You must use a letter for the first character of the name and only letters and numerals are allowed as part of the name. You can't use the hyphen or slash or other symbols that CP/M normally allows you to use in filenames.

Since there are no existing data bases to work with, we start our project for a list of folk and other songs under the filename "SONGS". Enter **SONGS**↵, and PC-FILE notes that `B:SONGS IS A NEW FILE` and asks `Do you want to define it?` If you answer **N**↵ for "no", PC-FILE goes back to the opening question, `Which drive (A, B, C, D) for the data:` So let's answer **Y**↵ for "yes".

Picking the Key Field

Remember that I asked you to think about the characteristic of each record in your data base that uniquely distinguishes it from each other member of the data base. Here's where that becomes important. When you use PC-FILE to find, modify, or delete a record, you can get the record you want by entering the record number, by going forward or backward in the file one record at a time, by going to the last record in the file, or by going to the last record you worked with. *Or*, you can enter something for the *key field* and get the first record whose key field matches it.

You may want the last name field to be the key field. If your file is a membership list or other mailing list, the last name could be the manner by which you'll want to find records. On the other hand if it's a mailing list of the members of the John Smith Society, you may want a characteristic other than last name to identify files. A customer or membership number is a good choice, especially if most of the documents from which new information will come for revisions have the number on them. For our SONGS data base, the title of the song is probably a good key.

Creating the SONGS File

Having chosen a name for our file, PC-FILE now asks us to define the fields. You have to choose a name for each field and tell PC-FILE file how many characters it can have. There is no restriction on the characters you use in a field name, except field name length is no more than 12 characters.

Note too, that when you print reports the title on the field will be truncated to the length of the field. You should try to pick field names that are no longer than the field length or which when truncated to the field length will make some sense. You can think of your own examples of truncation that will not look good at the top of a report!

PC-FILE prompts you now for the name of the key field:

```
KEY FIELD NAME:____________
```

PC-FILE puts the cursor at the first of the twelve underscores that it uses to indicate the maximum field length. (On the Osborne Executive and some other computers this may show up as a block in reverse rather than as twelve underscores, depending on the screen attributes you have.) Let's enter the key field name that I already indicated:

```
KEY FIELD NAME:Performer↵
FIELD LENGTH:_
```

PC-FILE then asks for the field length, as shown above. Enter **25**↵.

Editing of entries in fields when using PC-FILE can only be described as primitive or non-existent. The only option is a destructive backspace with **^H** (Control-**H**) or your left cursor key.

As you continue entering field names and lengths, PC-FILE displays them on the screen, adding after each entry a prompt for the next one. When you finish entering all the field names and lengths of the SONGS data base, the screen should look like this:

```
KEY FIELD NAME:Performer
FIELD LENGTH:25
FIELD NAME:Title
FIELD LENGTH:35
FIELD NAME:R/C
FIELD LENGTH:1
FIELD NAME:Name of Show
FIELD LENGTH:15
FIELD NAME:Record Label
FIELD LENGTH:10
FIELD NAME:Number
FIELD LENGTH:8
FIELD NAME:____________
```

Note that I've changed a few titles from the original that I indicated above. Since the field I'm calling `R/C` is intended to indicate whether the song is on a record album or a tape cassette, I've shortened the field to one character. The name isn't important, since only one character of the name will show on the reports, but I've chosen a name which indicates what the valid entries are either **R** or **C**. I've also shortened some other field lengths so that I can get a full 1500 songs into my data base and still be able to sort it.

To tell PC-FILE that you have finished defining the data base, enter a Return (↵). PC-FILE then gives you a chance to re-define the data base if you see that you have goofed:

```
THE RECORD LAYOUT
PERFORMER      25
TITLE          35
R/C            2
SHOW           15
RECORD LABEL   10
NUMBER         8
Is this all correct:_
```

Note that although you entered the field names in upper and lower case, PC-FILE displays them as all upper case.

Unless you have made a mistake in field length or have omitted a field, answer `y`↵ for "yes" here. Field names can be changed at any time from within the program. If you answer `n`↵ here, you'll have to go through the entire definition process again. In fact, it's probably easier to "clone" the data base before you have made any entries than to go through the definition process again, especially if you have a large number of fields.

The Main Menu

Having told PC-FILE that we are going to open SONGS, PC-FILE takes us to its main menu:

```
FILE:SONGS

(1) ADD a record
(2) MODify a record
(3) DELete a record
(4) DISplay a record
(5) FINd a record
(6) LISt or clone
(7) SORt the index
(8) see the record LAYout
(9) alter a field NAMe
(0) END or change database
YOUR COMMAND:___
```

You choose commands in PC-FILE either by entering the number indicated to the left of the command description or by entering the three capitalized characters in the command description followed by a Return. Choose the method you feel more comfortable with.

Adding Records

You have a stack of your favorite albums, and you're ready to start entering the data into the SONGS data base. Hit the `1` key to tell PC-FILE you want to add records to the data base. PC-FILE responds with a prompt:

```
ADDING AT #1
PERFORMER ____________________________
```

Enter `Gibson, Bob`↵ PC-FILE prompts for the next field:

```
ADDING AT #1
PERFORMER Gibson, Bob
TITLE     ____________________________
```

Continue entering the data as PC-FILE prompts for each field. When all the fields are entered, PC-FILE displays the entire record and gives you an opportunity to confirm that it's correct or to make changes:

```
THIS DATA WAS ENTERED:
PERFORMER    Gibson, Bob
TITLE        John Henry
R/C          R
SHOW
RECORD LABEL Riverside
NUMBER       12-807
Is this right? _
```

Suppose you made a mistake in entering the `NUMBER` field. Answer `N`↵ so that you can make changes. PC-FILE then prompts with:

```
MODIFYING # 1
PERFORMER    Gibson, Bob
TITLE        John Henry
R/C          R
SHOW
RECORD LABEL Riverside
NUMBER       12-807
Field to Modify:_
```

Enter `n`↵ to indicate that you want to modify the `NUMBER` field. Note that PC-FILE accepts lower case input and that because we've given each field a name that begins with a different letter we can select a field by entering just one letter. If you have two fields with names that begin with the same letter or letters you'll have to type enough of the name to distinguish the field from all others.

PC-FILE then displays:

```
MODIFYING # 1
PERFORMER    Gibson, Bob
TITLE        John Henry
R/C          R
SHOW
RECORD LABEL Riverside
NUMBER       <-_______
   Old Value:12-807
```

Enter the correct album number, `12-866`↵ Again, PC-FILE's editing is non-existent. You can't simply correct the wrong data, you have to retype it completely.

PC-FILE prompts again at the bottom of the screen, asking for a `Field to Modify:`. If you needed to correct another field, you'd enter the first letter of the field name and press ↵. If you're done with modifications, simply press ↵. PC-FILE again displays the data that has been entered and asks you to confirm that it is right. This time answer `y`↵ The disk activity light (if your drives have such lights) at drive B will light up, the disk will spin, and PC-FILE will write the first record onto the disk.

Adding More Records

The SONGS data base, like many others, has many records with fields that are the same. For example, the album for the song in the first record has 16 songs on it. All the fields are the same except for the song title. PC-FILE makes the entry of repeated data easy by allowing you to enter an apostrophe, ', to indicate that this field is to have the same data as the corresponding field in the previous record. Here's what you could enter for the second song:

```
ADDING AT #2:
PERFORMER       '↵
TITLE           Dance, Boatman, Dance↵
R/C             '↵
SHOW            ↵
RECORD LABEL    '↵
NUMBER          '↵
Is this right? y↵
```

PC-FILE will supply the correct entries from the previous record:

```
THIS DATA WAS ENTERED:
PERFORMER       Gibson, Bob
TITLE           Dance, Boatman, Dance
R/C             R
SHOW
RECORD LABEL    Riverside
NUMBER          12-806
Is this right? _
```

Using Function Keys

When I'm using PC-FILE I take advantage of my Osborne's special function keys as well as using a keyboard definition program, Smartkey II Plus® (FBN Software). The Osborne function key setup program lets me set up the numeric keys as function keys. The Smartkey II Plus program lets me change the definition of any key on the keyboard and make it a special function key, as well, even in the middle of a session with PC-FILE.

When I'm entering data in SONGS, for example, I have to enter ' ↵
↵ '
↵ '
↵ y
↵ '
↵
between names of songs. By making this into a special function key, or redefining a key on the keyboard with Smartkey II Plus, I can reduce this 11 stroke sequence to one or two strokes, and eliminate the response time between strokes at the same time.

One definition you will probably want to set up for every data base is a key to enter ↵y↵, the three keystroke combination required at the end of each record to complete entry of the last field and tell PC-FILE that everything is right. If you simply pause before hitting this special key to make sure that the data entered is correct, you can save time and keystrokes. Osborne 1 users can use FK.COM to store up to 8 different sets of special function keys on their PC-FILE disk and call up the one that's needed for a particular disk.

Finding a Record

Finding a record is an important function. You use the same the same technique to select a record to modify, delete, or display. You tell PC-FILE what data is entered in the KEY FIELD, the record number, to get the last record that was used, to go forward or backward one record from the last one modified, deleted, or displayed, or to go to the last record in the data base.

> ***"Cloning," a branch of the reporting function, makes a new data base made from an old one. You can include any of the fields from the old data base in the new one, in any order you want them; you can make the field lengths longer or shorter, and you can add new fields if you want to.***

These options are displayed on the command line at the bottom of the screen when you select the modify, delete, or display options:

```
KEY or #n,*,+,-,\
```

`KEY` means to enter the data found in the key field. You must observe capitalization here, but you only have to enter enough of the key data entry to distinguish it from other entries in the key field. PC-FILE will search the records in record number order until it finds a record with the data you have entered and prompt you the next step.

The FINd command, selected by entering `5` or `FIN`↵, allows you to search any field in the data base for any string. You can't search the whole data base, only one field at a time. You select the field and then enter the string you want to find.

PC-FILE pays attention to case, so if your entries normally begin with a capital letter, you have to search for the string beginning with a capital letter. You normally will search for the text at the beginning of a field, and this is reasonably quick, depending on the size of your data base. You can, however, tell PC-FILE that you want to search the entire field for the string.

For example, if I want to find the song "John Henry" in my data base, I could ask PC-FILE to search for `John H` in the field `TITLE`. But suppose that one version of the song is called "Ballad of John Henry, The" in my data base. A "standard" search for `John H` won't find that entry, since a standard search only finds strings at the beginning of the field. I tell PC-FILE that I want to search the entire field for `John H` even if it's not at the beginning of the field, by entering a `>` sign before the string. PC-FILE warns you that this is a slow procedure, and it is.

When PC-FILE finds a record containing the string you have specified, it stops and displays the entire record. You can then enter `S` to stop the search, or press ↵ to search for another record with the string.

When PC-FILE adds records it fills "holes" created by deleted records, so that the last record you added may not be the last record in the file.

Modifying and Deleting Records

Once you have found a record you want to modify or delete, you can do so easily. To modify a record you select the MODify option by entering `MOD`↵ or `2` on the command line. To DELete a record you enter `DEL` or `3`. To DISplay a record you enter `DIS` or `4`.

Next you indicate which record to be acted on. If you have been working in the file and using the FINd command, or you just finished modifying a record and realized you need to make another change, or if you just finished adding a record and now want to go back to it to modify it, you can select the last record used by entering an asterisk (*). Otherwise, you enter the data in the key field of the record you want to modify or delete, or the record number (if you know it), or a \ to indicate you want the last record in the data base.

If you want to MODify, DELete, or DISplay another record, you have the same choices plus the option to go to the next record number with `+`↵ or to the previous record number with `-`↵.

Modifying a record with the MODify command is the same as modifying a record when you are adding records and tell PC-FILE that the entry is not right.

To DELete a record, PC-FILE forces you to enter `DELETE`↵ in full. This is another function you might want to put into a special function key.

Reports and Labels

PC-FILE's report function is easy to use. You enter `LIS` or `6` to get a report, print labels, or make a "clone" or new data base from an existing one.

You can save your report formats, so you don't have to go through the setup each time. If you've already defined one or more reports and they are on the disk with the data, PC-FILE will ask you whether you want to use the existing report format or define a new one. Enter the name of the report to use an existing report. PC-FILE will display the format of the report so you can confirm that you got the one you wanted. If you want a new format, hit ↵. PC-FILE displays a list of the fields and the following command line:

```
Column = 0. Field to list:__________
```

Printer Setup

If you are going to ask for a printed report, you should do your printer setup before you start PC-FILE, as there is no facility within the program to send messages to the printer. You can, however, make a "page offset" to overcome the fact that PC-FILE starts printing your report in column 0. That may look a bit funny if your printer won't allow you to move the paper to the left to leave a margin. Two steps are needed to make a page offset.

First, enter `>nn` as the first field on each line of the report. The `>` symbol tells PC-FILE to insert a field consisting of blank spaces. The `nn` tells PC-FILE how many blank spaces to insert.

Second, when you enter the report title, for which PC-FILE will prompt you, hit the space bar the same number of times. This will offset the title by an equal amount.

Setting Up the Report

You select the fields you want in the report the same way that you select fields to modify in a record: simply enter enough characters of the field name to uniquely identify it. The display indicates in what order the fields of the data base have been selected, skipping over a numeral to indicate a report field that is a formatting device (like the empty fields created with `>nn`).

The command line displays the column number of the next displayed field, so you can determine if you are reaching the edge of the paper. It's a good idea to keep a printed copy of the record layout handy when you are doing this. Though PC-FILE lets you see fields on the screen, you'd have to interrupt your report defining process to find out how many characters there are in a particular field, in order to determine whether it will fit on the printed page.

To move to the next line in a report you enter a `¦`↵. The column counter in the command line returns to zero.

To make a report for the SONGS list, we want the name of the song in the upper left, followed by the name of the performer. For this list we want to indicate whether it's on a record or cassette on the first line, too. On the second line you should put the name of any show the song is from, the label name, and the number of the recording.

Here's what you enter and what it does:

Entry	**Meaning**
>10	Offset first line 10 spaces
p↵	Select Performer field at column 11
t↵	Select Title field at column 36
r↵	Select R/C field at column 71
/↵	End of line
>10	Offset second line 10 spaces
s↵	Select Show Name field at column 11
r↵	Select Label field at column 26
n↵	Select Number field at column 36
↵	End of report

After each entry the screen indicates the column where the next character would appear. When you enter the /↵ to end a line, the counter returns to zero. As you pick a field of the data file to enter in the report, an arrow on the screen indicates the field has been picked, and the number of the field in the report, counting blank spaces and line ends as fields.

Here's what the screen looks like at the end:

```
PERFORMER <- 2
TITLE     <- 3
R/C       <- 4
SHOW NAME <- 5
LABEL     <- 6
NUMBER    <- 7
```

You can actually have a field entered more than once in a report, in which case the screen display will change to indicate only the latest field number.

Saving Report Formats

When you hit the final Return (↵) to indicate the end of the report, PC-FILE asks `Save this report format?`

It's not a bad idea to save it even if you don't expect to use it again — you might decide to abort the report because you've hit a wrong key, and saving the format will save you time.

Report format files take up only 1K (or whatever the smallest block is on your disk) and can be deleted when you exit from PC-FILE. If you choose to save the report format PC-FILE will prompt you for a filename for the report and add the extension ".RPT".

Mailing Labels

To get mailing labels from PC-FILE, Jim Button says to simply make sure that you add a / as the last field at the end of the report format. In fact, you had best pad out the report format to the number of lines on your labels, or you're likely to find the text creeping up on the labels. If you do put a / at the end of the report you'll be asked whether you want labels or a report. Answer L↵ and PC-FILE will omit titles at the top of the page, column headers, and page numbers, and simply spit out labels.

Printer, Screen, or Disk?

PC-FILE has three options for your report: printed on the printer, displayed on the screen to see it without printing it, or saved to a disk file. You can stop the display by pressing your ESCape key.

PC-FILE automatically paginates for 66-line (11 inch) paper and leaves 12 lines between the bottom of the first page and the top of the second. No top margin is generated, so set the paper where you want the report to start. There's no option to stop the printer between pages, so continuous form or a cut sheet feeder is in order!

The disk output options are what gives PC-FILE a good deal of its flexibility. You can simply put your report on a disk file to edit with your word processing program, thus obtaining the formatting flexibility that PC-FILE itself does not have. If you "lie" to PC-FILE and tell it you want labels, your disk report will not have the titles, column headings, and page numbers that it puts on reports, and you can add your own headers and footers.

Choosing the length of the field to sort on is tricky. A sort on a sizeable mailing list that runs 26 characters on a single field will probably run out of memory.

Cloning New Data Bases

Another disk output option is a "clone" of your existing data base — PC-FILE's best feature. Remember the original design of the SONGS data base? Some of the fields were too long. A clone can fix that. Remember the final design? The "number" field had eight characters, which turned out to be too short. A clone can fix that. We picked `Performer` as my key field. That was dumb — a single Bob Gibson record has sixteen songs. I haven't got 16 versions of even John Henry! What I really wanted was to make the title the key field — a clone can fix that.

Cloning, a branch of the reporting function, makes a new data base made from an old one. You can include any of the fields from the old data base in the new one, in any order you want them; you can make the field lengths longer or shorter, and you can add new fields if you want to.

Create your clone format just as if you were making a report. Entering >nn creates a new field nn characters long (a decimal number) whose name is `>nn`. The new fields can easily be renamed using option 9 of the main menu. Just tell PC-FILE that the field to be renamed is `>nn`↵. If you have more than one field of the same length, you'll get to them in order of creation.

To make a new data base with `TITLE` as the key field, and at the same time change the `NUMBER` field to 12 characters, select option 6 from the main menu, enter `TITLE` as the first field, enter the others in proper order, then send the output to a disk file, telling PC-FILE you want a clone.

Answer `Y`↵ when asked whether you want to change any field lengths, and indicate the field to change by typing `N`↵ (remember, you only have to enter as much of the field name as is necessary to distinguish it from other fields). Enter `12`↵ as the new field length, then press ↵ to stop changing field lengths. Tell PC-FILE the name of the new data base, and include all records. Since PC-FILE is entirely menu driven it's almost hard to make a mistake.

Selecting Records For Reports

PC-FILE's reporting function gives you some limited opportunities to select which records you will get in your report. You can only select on one field. You can only choose one logical operator: equal to (`=`), greater than (`>`), less than (`<`), or different from (`<>`). PC-FILE asks you whether you want all or selected records. If you enter `S`↵, the file layout is displayed on the screen and PC-FILE asks which field to select on. Choose the field.

PC-FILE then asks which operator you want, with the signs `=`, `<`, `>`, `<>` displayed. Choose whether you want all records equal to, less than, greater than, or different from a particular value. Then PC-FILE asks for the value that you want to use in the selection process. Note that "JA" is greater than "J" in PC-FILE's system and that the `<>` (different from) operator will select out all records which *begin* with the value that you choose. Thus if I ask PC-FILE to give me a report of all records with titles different from `J`, the song "John Henry" will be omitted from my report.

Sorting the Index

Of course PC-FILE wouldn't be of much use if you couldn't sort your data base. Actually PC-FILE doesn't sort the ".DTA" file itself, but maintains a separate index or ".INX" file tells PC-FILE what order you want the records in. PC-FILE itself doesn't do the sorting — it loads a separate module called PCSORT.COM to do that. That means there's a few seconds delay while PC-FILE gets ready to sort, and another short delay when the sort is finished.

You can sort on up to 10 fields at one time, subject to memory limitations. PC-FILE asks you to list the fields in order of importance — the final sort will be in order according to the first field you selected. Entries in the second field will only be in order under entries of the first field that sort the same. If none of your customers have the same last name, a sort on last name and first name won't be any different than a sort on the last name alone. On the other hand, if your list has lots of people with the same zip code, a sort on zip code and list name will have all those with the same zip code in alphabetical order by last name.

Choosing the length of the field to sort on is tricky. If you have Mr. Schwartz and Mr. Schwartzberg in your list, a sort on eight characters might put Mr. Schwartzberg ahead of Mr. Schwartz. If you've got the League of Women Voters of Cook County and the League of Women Voters of Chicago on your mailing list — good luck! A sort on a sizeable mailing list that runs 26 characters on a single field will probably run out of memory.

A sneaky solution to this problem would be to create an extra field of one or two characters alone and use that field to numerically order the troublesome entries. A sort on that field before the main sort would have them wind up in the correct order after the main sort. You don't have to enter any data in that field for records that don't need it and you never have to put that information in a report.

The sort is pretty fast, but the building of the index takes time and grinds your disks a lot. Button says you should plan a total sort/rebuild time of 200 records per minute, *average*. Experience indicates that on large records on our double-density Osborne 1, a sort/rebuild time of about 12 minutes for a 1000 record data base was routine. Of course, putting this into a RAM disk cut the time to less than two minutes, and some other systems have faster I/O times.

Using PC-FILE Data With Other Programs

A separate module, PCEXPORT.COM, run from the CP/M `A>` prompt rather than as an option in PC-FILE, will export the data in a PC-FILE data base to a comma delimited field that you can use with MailMerge, dBASE II, BASIC, and other programs that can use data in that format.

Instructions are included for importing data into a PC-FILE data base. However, I've never had much success with this function, though others have done it. I've also had problems attempting to edit PC-FILE data bases with WordStar or VDO, though I've been told it can be done. Unfortunately, both VDO and WordStar think the data file has only one line in it, and get very upset at being asked to work with a line that is 1K bytes long.

A Few Words of Caution

There are a few things you should not do. Do not put a write protect tab on your program diskette. PC-FILE uses the diskette for a workspace. Always exit the program normally by entering `0Q`↵ from the main menu.

When you get to a place where you don't want to be and you can't figure any other way out, press the ESCape key. Don't rely on this to stop adding records — use ↵ at the prompt for the first field, or in other similar situations where the ↵ will get you out. Use of ESCape nibbles away at your main memory, slowing down all operations and reducing the amount of sorting you can do.

Short Subject

This issue I'm featuring three short subjects, LFIND.COM and PAIRX.COM. LFIND is a library utility that searches for a file in a library (".LBR") file (see issue #13 for a description of library files).

LFIND checks each user area and each drive and rummages through each ".LBR" file to find the member file you want. It's probably most useful for those who use ".LBR" files constantly in their operations, especially with a hard disk. If you have a number of small files stored as members in an ".LBR" file to save space, there are times when you can't remember which member file is in which ".LBR" file. LFIND does it. Operation is straightforward: enter `LFIND filename.ext`↵.

PAIRX.COM searches for pairs. It's for WordStar users who wonder whether they paired up those control codes for underscore, bold, strikeout, doublestrike, or sub- and superscripts. PAIRX checks to see if they are paired up within a line of each other, and displays the page and line number of any control code that doesn't have a pair on the same line.

In some instances you may have your control codes normally separated by a greater distance. There are instructions given on how to patch the program to change the separation. To operate PAIRX, you simply enter `PAIRX filename.ext`↵.

WDCOUNT.COM is a great writers aid. This little (1 kilobyte) file is a whiz at counting words in WordStar or other text files. WDCOUNT took about 20.5 seconds to count 8,450 words in a 49K byte text file! In my RAM disk it took only 4.4 seconds. Other programs just don't seem to be as fast.

Next Issue

Next issue I'll review DIMS (Dan's Information Management System), which is capable of doing everything PC-FILE does and more. I'm also planning to do a tutorial on SPELL, a public domain spelling checker. There are two versions. Both work as stand alone spelling checkers. Version 1.1 is for use with WordStar 2.26. Version 2.0 is for use with WordStar 3.30. We'll also compare SPELL with two commercial spelling checkers.

This Issue's Disks

There are two distribution disks for this issue.

The relevant document files and source, when available, will be included. Version numbers are subject to updating by the time the disks are shipped. While I promise that I'll put on any later version I have, don't assume that I have the latest there is.

All of the disks from prior issues are available.

Disk #9 covers PC-FILE . Disk #10 covers DIMS and this month's short subjects. DIMS hasn't been described yet, but you may want to check out both of these programs and not wait until the next issue comes out to decide which you might want to work on.

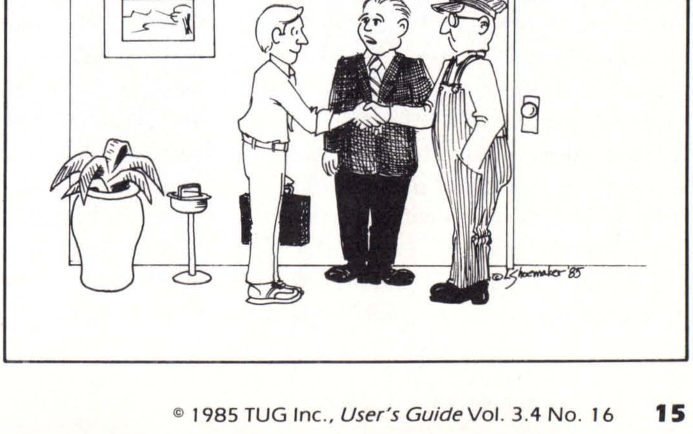
Each disk costs $6, except PC-FILE. Jim Button restricts the copying charge for PC-FILE to $5, and limits copying to clubs and other not-for-profit groups. I'll be turning over the proceeds of distribution (less expenses) of PC-FILE to Chicago's First Osborne Group, my local user group. Send all orders to Benjamin H. Cohen, Box 1674, Chicago, IL 60690.

Please specify which disk you want and what format.

Free Software

Get the most useful book on free software for CP/M and MS-DOS systems: *Free Software* by Bove, Rhodes & Smith for the Jerry Pournelle Book Series (Baen Books, distributed by Simon & Schuster Mass Merchandise Sales Co.). Order it from your local book store or write to:

Simon & Schuster
Mass Merchandise Sales Co.
1230 Ave. of the Americas
New York, NY 10020


...AND THIS IS MR. CASEY, OUR DIRECTOR OF ENGINEERING
©LShoemaker '85

ELECTRIC ORACLE/Byron McKay

Selected and Sought-after Software Solutions

A new column of questions answered by the Delphic Dealer himself, a founder of PicoNet and FOG, and the Bard of the BBSs — Byron McKay.

Salutations! Welcome, to the Electric Oracle. I am Byron McKay, founder of PicoNet, co-founder of FOG, and president and owner of a small (some say minute) computer dealership called Delphi Data Systems. I have for years been hearing and with some success answering your questions through the above mentioned organizations, and so our beloved editors here at *User's Guide* have entrusted me with this to-be- regularly-featured question and answer forum. Gad, what awesome responsibility!

With that responsibility in mind, let me address what I feel are the major factors in solving your micro-computer problems. Before you find a solution to a problem, you must know what the problem is. With micro-computing, the "problem" has always been more like a disease. The micro-computer industry may be reckoned as an entity made up of a collection of organisms, some of which are diseased. Many of you are going through the pains of several micro-computer industry related diseases at present, some of which are readily identifiable. Here are some examples. See if you or any member of your company or family have been afflicted yet ...

Drivelling NIH syndrome — This is when you buy a component or computer from one manufacturer, and another component from another manufacturer and try to hook them together. Altogether, a not so unreasonable thing to want your machinery to do...work! While doing so, you repeatedly hear a ringing in your ears that sounds like "Jeez... Well, that must be the _____ (fill the blank with the opposite piece of equipment), cause our equipment couldn't possibly be at fault..." When going at installation or repair from the opposite end, you hear the same repeated strains.

Further symptoms are such things as...large amounts of equipment laying all over at least one room of your office or home...several copies of one piece of software, none of them working...several cables of all shapes and sizes, none of which fits anything you own. A large collection of documentation which bears the name of your machine, but has little or nothing to do with how it operates, might be considered the most blatant symptom of this curious ailment. If you have any or all of these symptoms, you need immediate treatment of large doses of "The Way it is" drug, and tender loving care.

Inconsistent Buying Malady — This is a serious illness affecting a tremendous segment of the population causing severe symptoms. Some of the more notable ones are...lot's of software, but no where to buy it due to the rumor (gospel via media) that your particular machine is about to be piled in heaps in the town square and burned for lack of charisma (*Chain Stores's Syndrome*)...paranoia, and a feeling that everyone you talk to is calling you a dummy because you bought "an inferior product"...*Parts Drywellus*, the lack of parts because "they just don't sell anymore pahdnuh!"...invisibility, as in every time you see the dealer you bought your CP/M-based machine from, he or she stares right through you. Again, serious treatment is required to avoid the worst possible consequences.

Rampant Bookshelf Inconsistency — In this ailment you have absolute volumes and reams of books and papers, all of which boil down to "you aren't as smart as you think you are," or say nothing at all.

Well, it's time to do something about all of the above! In this column, we will be examining some of your most feared and dreaded questions. You send them in, and I'll try to answer them. Be forewarned though, I am not conventional in any way shape or form, as the levity at the beginning of this column should have exposed. I believe the old Chinese proverb "If you give a man a bowl of rice, you have fed him for today, if you teach the same man to grow rice, you have fed him for a lifetime." Actually, that came from the back of a box of screaming Yellow Zonkers I had a few weeks ago...(see, honesty already!).

It's time to do something about maladies like ... invisibility, as in every time you see the dealer you bought your CP/M-based machine from, he or she stares right through you.

So, I intend to answer only a few questions per column, or even only one question per column, but give good, logical, straight answers, with the reasons why things work the way they do...(feel that rice squishing between your toes yet?)

Also, I have been told that I am good, but not God. Don't be disappointed if your question is too far over my head, or too elaborate to be answered in the small space we have allotted, or missed in the shuffle. The idea here is to get as much information out to as many souls as possible without causing a general nervous collapse of your beloved Oracle (moi!).

Since this will be an on-going column (unless Tony and Cheryl fire me due to my absurd mannerisms and lack of tactful writing skill), it is probably in our best interests to establish some ground rules for the questions you submit, and how I will go about answering them. So, let's try these for now, with an option to revise and review at a later date (Version 1.00a).

1. The scope of the questions is limited to Z-80, 8080, or 8085 based equipment, running CP/M 2.x, or CP/M Plus. Interfacing questions, such as how to transfer files and suchlike, to machines other than these will be acceptable also, so long as we are talking about the 8-bit end of it. Questions about 16-bit upgrades to existing 8-bit machines are considered acceptable as well.

2. The questions include all needed data, like: Computer type, Operating System, Printer type, Modem type, software under discussion, and most important of all, what will be the "bottom line" result you are looking for.

3. Since space is limited, I'll be taking only those questions which seem to be needed the most by the majority of responding readers. I *will not* be answering questions directly by return mail, telephone, carrier pigeon, or any other means you may think of...there are just too many.

In return for your disciplined adherence to the aforementioned rules, I shall endeavor to make the answers to your questions as clear and concise as I can, and you will get *honest* answers. Like President Truman, "The Buck Stops Here" where technical questions are concerned. If I turn over a rock and find something yuck-o, I'll let you know about it. If I find a gem in the rocks, same story. With your help, who knows, we might even be able to make a small dent in fighting all that "vaporware" and the bogus operations we have all been up against at one time or another.

I shall also try to keep you abreast of changes and current developments which I feel are of significance (self-centered thing, aren't I), and wish to share with you. If you find something that is neat-o (showing my age), send it in, and I'll let everyone know about it.

Now I realize all you folks are sitting there about now, saying "Just who is this Guy? I never heard him before, so how come I can trust his stupid answers?" Well, I can dig that, so I'm gonna lay a sample session on ya! In order to get a taste of future columns, here is a sample question and answer. I hope it illustrates what I am hoping will be the quality of answers in future questions as well.

Question :

I have an IBM PC, and an Osborne I computer. I use the IBM all day long with my Wordstar word processing software. Recently, I have needed to do work at home to get caught up, but have no idea whether my Osborne I can make use of the files which my IBM creates at work. I know that just sticking the disk into the O-1 does not work, but is there a way to get the PC files onto that format and back again?

R.L.
Long Beach, CA

The Oracle Says :

Well, there are several caveats here, but the tentative answer is *yes*. We have to talk a little bit about "formats", and what they are. When a disk is taken out of the box for the first time, it is just so much plastic and iron filings until it is "formatted". Unfortunately for all of us, the great god of micro-computing pulled a "Tower of Babel" number on us in the earlier days when the world of micros was young. Therefore, we have *many* different formats which are almost (not quite) completely different, and incompatible with each other. When MS-DOS/PC-DOS (also known as the "IBM PC operating system") came along, everyone though "Aha! At last one universal format!" But, it was not to be. Even between MS-DOS computers there are format differences (some big ones! Make not TI, Zenith, and others) which prevent disks from "sliding in" and running. Now, to the specific problem at hand.

First off, the Osborne I makes use

of a single-sided double-density disk drive (since single-density machines are so easily upgraded I won't talk about single density). The IBM PC and machines which emulate it use double-sided double-density (and sometimes 96 track-per-inch, or quad-density) disk drives. Obviously, there is an inherent incompatibility going from the IBM to the Osborne (I'll use Osborne, but you may substitute almost any CP/M machine's name), as far as disks are concerned, but, not so obvious is the fact that going the other way is quite possible! More on that method in a while.

Fortunately, we are lucky that there is software available at both ends which will allow the transfer of files between the two machines. There are two major methods to accomplish this as follows:

File transfer from disk to disk is by far the easiest and most efficient method. You use a software package on one or both machines which converts the disk format of one machine to another.

Method #1. File transfer may be accomplished via an inter-connecting cable and the RS-232 serial ports. This method requires the use of a cable which is specially constructed for this application. It is sometimes generically referred to as a "null modem cable". You will also have need of file transfer software with matching "protocols" at both ends. A *protocol* is a means of passing the data between the two machines with no lost data; this is also referred to as "hand-shaking" between the two machines.

Several protocols are available in several packages of both public domain (read free), and proprietary (not so free) software. The most widely-used file-transfer protocol (as nearly as I can tell) is the "Christensen" or "Xmodem/Modem7" protocol which is a development of a lot of time and energy by many people in the public domain (see *User's Guide* double-issue 11/12 for a complete run down). Recently, programs have become available in the public domain which support the "Christensen—Xmodem/Modem7" protocol (or whatever it is now called), and they work on the IBM PC.

The Osborne has had the MDM740 series of programs which support "Christensen" for over two years (most other CP/M machines as well...). Using MODEM8 on the IBM and MDM740 on the Osborne, file transfers can take place under the "Christensen" protocol method. This is how you do it for the least "coin of the realm".

If simplicity is desired, and you have a few extra shekels sparkling in your breeches, you could select any of several different packages which are sold at some dealers (darn few, most don't know what they do!), but usually are readily available via the mail (see the mail listing at the end of the article). Two packages come to mind which seem to have the widest acceptance, and the most bang per buck...MITE from Mycroft Labs Inc., and MOVE-IT from Woolf Software Systems.

Both are available for a large number of CP/M machines, and the PC clones. If file transfers are your only use (as in you don't need to also use the package as a modem communications package) MOVE-IT stands head and shoulders over MITE, however, MITE makes MOVE-IT look silly when Modem applications are involved. MOVE-IT recently added the "Christensen" protocol to the package to make it compatible with RCP/M (remote CP/M and BBS) downloading, and MITE has always had it. Either way you can't go wrong, as both cover the installation of the software and cables very thoroughly.

The only hang up with this method? Price. You will need a copy for your CP/M machine, and a copy for your IBM. Both products pack a wallop in the price tag department, and may cost as much as $350.00 with the cable and the two copies. Further, you may use this method with a modem at both ends and substitute phone lines for the null modem cable, but again, the cost goes up when the modems are added into the picture, and, the speed of transfers becomes limited to the speed of the fastest modem in the pair.

An excellent reference for accom-

Mailing Information

Send all questions to: The Electric Oracle, c/o User's Guide, Box 5245, Redwood City, CA 94063. You can also log onto the **User's Guide Bulletin Board**, (415) 367-1029, and leave an electronic message (sorry, the system is for incoming only — it is too small to support many answers and libraries of public domain software — besides, user groups have BBSs with public domain software).

MITE, modem communications and file transfer software, is from Mycroft Labs Inc., PO Box 6045, Tallahassee, FL 32301 (904) 385-2708. Price: $150.00.

Move-it, file transfer and modem communications software, is from Woolf Software Systems, 23842 Archwood St., Canoga Park, CA 91307 (213) 703-8112. Price: $125.00.

Uniform, disk format and transfer utility, is from MicroSolutions, 125 S. Fourth St., DeKalb, IL 60115 (815) 756-3421. Price: $69.95 per copy, available for IBM PC, Osborne I, Kaypro, and most other popular CP/M based machines.

24X80 Display and Baud Rate Generator UpGrade for Osborne I is from Nuevo Electronics Corporation, P.O. Box 209, Richmond, TX 77469 (713) 499-4531.

FOG

The **F**IRST **O**SBORNE **G**ROUP (**FOG**) has been formed as a User's Group for persons using or interested in portable computers and/or the CP/M disk operating system with related software. In December of 1984, there were over 15,000 members from around the world. Most attend local group meetings at over 300 locations.

Computer systems owned or used by members include the Osborne 1 (single and double density), the Osborne Executive 1, all models of the Morrow MicroDecision, the Zorba, all models of the KayPro, several MicroMates, and many more. Special interest groups organized to augment a network of local group meetings include dBase II, Ham radio operators, Personal Pearl.

FOG was started in October of 1981 by a small band of early buyers of the Osborne 1. The primary purpose was to organize a library of public domain software to run on the Osborne 1. A newsletter was quickly started to act as a focal point for the group's activities. The large number of excellent contributions to both the library and the newsletter has produced a library of 230 disks (as of December, 1984) and a nicely typeset (70 or more pages) monthly publication. All back issues of the ***FOGHORN*** are available for a nominal fee which includes shipping in the U.S. Contributions are currently being solicited for bulletin board systems in addition to the thirty currently in operation. Most systems accept both 300 baud and 1200 baud. Phone numbers for the first systems are:

System #1 — Daly City, CA	(415) 755-2030	24hrs/7 days
System #2 — Vancouver, BC	(604) 596-0314	24hrs/7 days
System #3 — Daly City, CA	(415) 992-8542	24hrs/7 days

Each of these systems will have a file listing phone numbers for the other systems.

While the meetings are organized on a local basis, over 130 of these local groups have joined the FOG network, thus increasing the sharing of information, tips, problems and so on. Those local groups which opt to formally join the FOG network receive a portion of local member dues to assist with the cost of maintaining a local copy of the disk library.

The FOG library is currently maintained on the Osborne 1 single density format but separate libraries are being established for the other computer formats. The library files are carefully screened and divided into category types (utilities, games, applications, and computer languages are the four major categories). Programs which contain run or other errors are put into the hacker section so interested members can fix them and resubmit for inclusion in the correct section. Items which do not fit into one of these categories are in the miscellaneous section. A catalog and descriptions of all the discs is maintained in the library section.

Dues in FOG are $24.00 per year. This entitles each member to a copy of the ***FOGHORN*** each month as well as access to the disk library. Local group meetings are open to the public without charge although access to the disk library is restricted to the membership. The FOG library contains only public domain software. Piracy (the copying of proprietary software) is strongly condemned.

In the United States, the ***FOGHORN*** is normally mailed by non-profit bulk mail. (FOG is a corporation in the state of California and has obtained its non-profit, tax exempt status from both the state and federal governments.) For those members who live out of the country or who prefer first class delivery of their ***FOGHORN***, additional postage must be added to the annual dues. See the chart below for details.

If you are interested in joining a self-help organization to increase you knowledge and the use of your computer, use the application below (or a copy of it). Generally, memberships received at the FOG office prior to the 15th of the month are entered in time to receive the next month's ***FOGHORN***.

If you know of a local group which might be interested in joining the FOG network, please send all details (meeting dates and places, officers, and how interested local computer owners can join). We will send you an information packet on becoming an Affiliated Member Organization.

For your records, the address of FOG is P. O. Box 3474, Daly City, CA, 94015-0474. Please allow at least two months for the arrival of your first ***FOGHORN*** since bulk mail can take as much as nine weeks. (The post office says that it should only take about three weeks for non-profit bulk mail but some members on the East Coast have experienced longer delays.) A membership card will be processed within two weeks of the receipt of your dues.

ADDITIONAL POSTAL CHARGE CHART

Please add the appropriate amount to your dues payment.

Canada & Mexico (First Class Airmail delivery)	ADD...$ 9.00
Members with U.S. addresses who prefer First Class delivery to bulk mail	ADD...$ 9.00
Central & South America, Caribbean, & Europe (Airmail First Class delivery)	ADD...$12.00
Asia, Africa, & Far East (Airmail First Class)	ADD...$15.00
Out of North America preferring surface mail — delivery not guaranteed	ADD...$ 6.00

CUT HERE

NAME: ______________________

Company (if part of mailing address): ______________________

ADDRESS: ______________________

CITY: ______________________

STATE: ____________ ZIP or MAIL CODE: ____________ COUNTRY: ____________

HOME & WORK PHONES: ______________________

MEMBER OF WHICH LOCAL GROUP? ______________________

COMPUTER TYPE? ______________________

MODEM TYPE? ____________ PRINTER TYPE? ____________

INTERESTS? ______________________

Send this completed application **AND** your payment to:

FIRST **O**SBORNE **G**ROUP
P. O. Box 3474
Daly City, CA 94015-0474
United States of America
Phone: (415) 755-4140

Be sure to include any required postage surcharge per chart above.
Your membership card will be sent by 1st class mail.

Circle number 11 on the reader service card.

plishing the file transfers between the two machines is a book called *The RS-232 Solution* by Joe Campbell (Sybex Computer Books, ISBN 0-89588-140-3). This book is one of the best at illustrating how to create the cables needed to do the job. The transfers will require a special "null modem" type cable which may be bought (try Misco 1-800-631-2227), or built with the aid of the above mentioned book.

A really negative note for your Osborne I though, without adding an upgrade card (Nuevo Electronics), you will only be able to transfer files at 1200 bits per second, or about 120 characters per second. This means transfers on cable will be really slow without the added expense of the upgrade to the Osborne. All in all, not the fastest, cheapest, or easiest method of getting the job done, but it works when everything else fails.

Method #2. File transfer using disk to disk transfers is by far the easiest and most efficient means of accomplishing the task. A relatively new means (about 2 years old), this method consists of a software package placed on one or both machines which "converts" the format of one machine to another. There are several such packages on the market, which work on both the IBM (and most clones), and the Osborne (and several other CP/M machines as well).

When working at the IBM end, the use of Uniform, by Microsolutions, is the simplest and fastest way. You merely load Uniform into memory, where it attaches itself to MS-DOS/PC-DOS, and converts one of your disk drives into Osborne format (or about 30+ other CP/M formats!) allowing you to move files onto, or off of the Osborne formatted disk. Very slick!

At the Osborne end, the same program is available, and works in virtually the same way. Loaded, attached to the operating system of your machine, Uniform will allow you to format, read and write both IBM PC-DOS and over 30 other formats as well! The answer as far as I am concerned.

If price tag is an object, then you might also want the trimmed-down method of using Dick Grenewetski's Media.Master on your Osborne end. Unfortunately, this fine program is not available for the IBM end, but you only need one end!

Either of the above methods will work fine to move "foreign" files between two distinctly different machines. I hope that this answers your need, and thank you for the question!

Well, how did I do out there? Think I have a chance? Well, we'll soon find out! Send me your woes. I'll be here again next issue, same bat time, same bat channel...till then be wise, be at peace!

Perfect for the Beginner...
Invaluable Teaching Aid...
Quick Reference Guide for the Pro...

AXXESS KEYBOARD TEMPLATES...

- Improved Angle Reduces Eye and Neck Strain.
- Windows Visually Organize Commands for Quick Reference
- Larger, Easier to Read Type
- Most Frequently Used Commands Listed First
- Created for Users by Users
- Easy to Understand English, Not "Computerese"
- No special symbols or Abbreviations to learn
- Examples Given in Key Situations
- Immediately Provides Full Use of Your Software
- Eliminates "MANUAL LABOR"
- Reduces Errors, Eliminates Frustration, While Building Confidence

AXXESS KEYBOARD TEMPLATES...
- Wordstar/Mailmerge/Spellstar
- Perfect Writer/Filer/Speller
- Perfect Calc
- dBase II
- M Basic
- CP/M-80

$14.95

axxess™

The right command every time!

YES! Please rush my order !

Save COD charges by enclosing your check or money order, or use your Diners Club or Carte Blanche Credit Card!
☐ Check
☐ Diners Club
☐ Carte Blanche
☐ M.O ☐ C.O.D.

Name ______
Address ______
City ______ St ____ Zip ____
SIGNATURE ______
CARD# ______ EXP ______
QTY DESCRIPTION
___ ______
___ ______

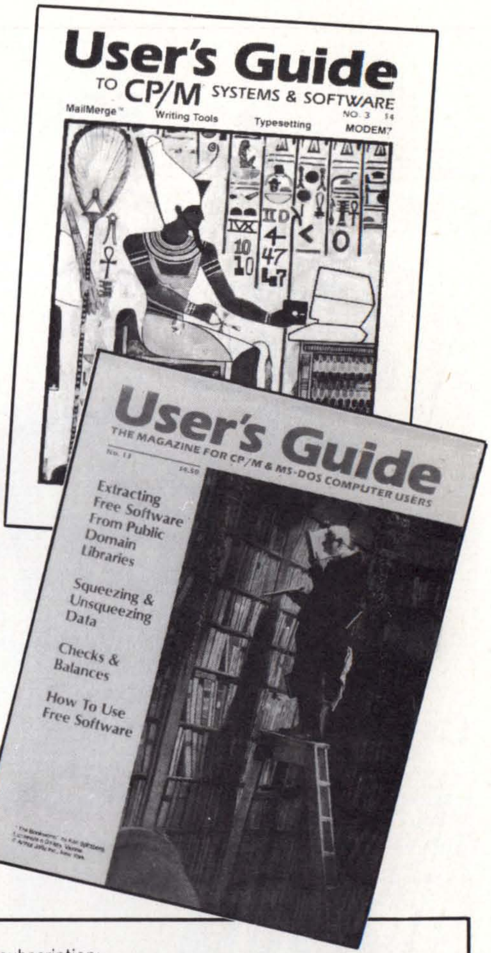
Subtotal ____
6% CA Tax ____
C.O.D. 5.00
Shipping 3.00
Total ____

AXXESS SOFTWARE SUPPORT SYSTEMS
P. O. Box 40169
San Diego, CA 92104
(619) AXXESS-1

Circle number 2 on the reader service card.

We Explain Software Packages, Then We Teach You How To Use Them. *User's Guide* is the Magazine of Tutorials.

"...worth more than it costs."
Jerry Pournelle, ***BYTE***


User's Guide
TO CP/M SYSTEMS & SOFTWARE
MailMerge
Writing Tools
Typesetting
NO. 3
MODEM7
User's Guide
THE MAGAZINE FOR CP/M & MS-DOS COMPUTER USERS
Extracting Free Software From Public Domain Libraries
Squeezing & Unsqueezing Data
Checks & Balances
How To Use Free Software

User's Guide® magazine helps you use CP/M® and MS-DOS® application software on your personal or multi-user computer. For the low cost of a magazine subscription ($21), you get six issues stocked with tutorials and software evaluations ($4.50 each on the newsstand). No fluff, just direct, readable "how to use" information for users of computers that run CP/M software.

If you have a CP/M or MS-DOS computer, you need to know where to find good software and accessories. ***User's Guide*** has in-depth evaluations of commercial ***and free public domain*** software, so that you can choose the best buy.

Don't spend hundreds on training packages. ***User's Guide*** teaches you how to use the most popular programs on the market, such as WordStar®, SuperCalc®, dBASE II® and Modem7. You learn at your own pace.

Editors Tony Bove and Cheryl Rhodes are the acclaimed writers of several computer books on CP/M and WordStar. Contributing editors and columnists include other great writers who use computers extensively, such as Arthur Naiman, Steve Rosenthal, Jonathan Sachs and Kelly Smith. The writing is crisp, intelligent and informative, without an overuse of jargon.

User's Guide also keeps up with the changing personal computer market, with informative articles about communicating with other systems and transferring programs and data.

NO RISK OFFER:

Try ***User's Guide*** today. Fill in your name and address on the card next to this ad. Check the box marked "bill me" and drop in the mail; if you don't like the first issue, write "CANCEL" on your bill and keep it (or better yet — pass it on to someone who can use it). If you think you'll want it, save $3 and send in your payment with the card or coupon.

Try ***User's Guide*** as a training tool. Make your computer investment profitable.

User's Guide
P.O. Box 5245
Redwood City, CA 94063

Indicate Offer and Length of your *User's Guide* subscription:

Take Advantage of the Low Price for Enclosing Payment Now!	Or, try our no-risk bill-me offer and cancel if not satisfied!
☐ I enclose **$21** for 6 issues	☐ Bill me **$25** for 6 issues
☐ I enclose **$40** for 12 issues	☐ Bill me **$45** for 12 issues

☐ **Foreign:** (prepaid US $$): Canada & Mexico $27/six issues, overseas $40/six issues (airmail).

Payment by charge card: ☐ Visa ☐ Mastercard Exp. date ____________
Phone: 415-364-0108.
Card # ____________ Interbank # ____________

Signature required: ____________

Name ____________

Company ____________ Title ____________

Address ____________

City, State, Zip ____________

☐ Check if you do not want promotional mailings.

Make checks payable to ***User's Guide***. Offer expires 12/31/85
Subscription Dept.: P.O. Box 5245, Redwood City, CA 94063.
Please allow 6-8 weeks for processing.

UG 16

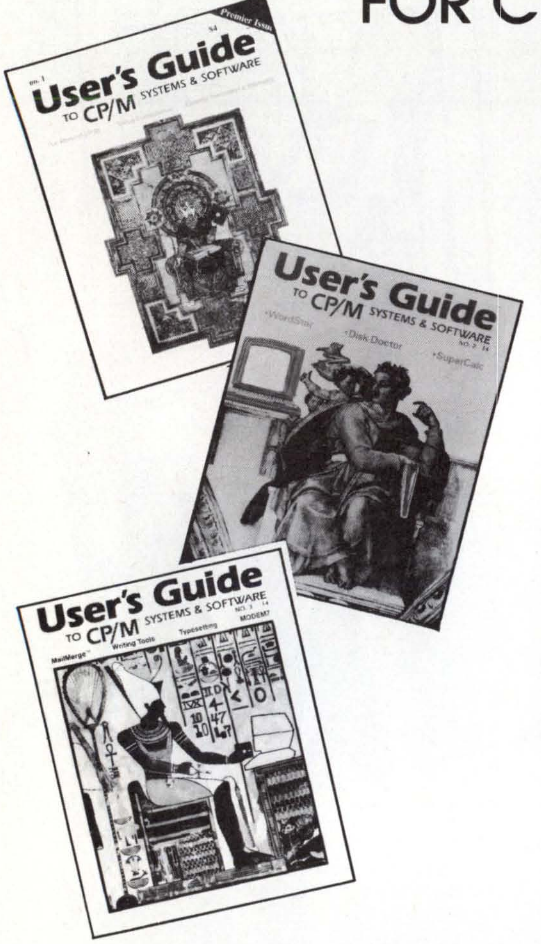
• ***User's Guide*** is published by TUG Inc., with no strings attached to manufacturers or software distributors.

User's Guide is a trademark of TUG Inc. CP/M is a registered trademark of Digital Research, Inc. WordStar is a registered trademark of MicroPro Intl. SuperCalc is a trademark of Sorcim. dBASE II is a trademark of Ashton-Tate. MS-DOS is a trademark of Microsoft.

Circle number 20 on the reader service card.

BACK ISSUES

A TRAINING LIBRARY FOR CP/M & MS-DOS USERS


User's Guide to CP/M Systems & Software
Premier Issue
User's Guide to CP/M Systems & Software
WordStar
Disk Doctor
SuperCalc
User's Guide to CP/M Systems & Software
MailMerge
Writing Tools
Typesetting
MODEM7

User's Guide to CP/M Systems & Software
CP/M Plus
SuperCalc
Disk Utility
dBASE II
User's Guide to Systems & Software
CP/M Plus Tutorial
dBASE II Tutorial
Perfect Filer
Radio Shack Model 100
PMC MicroMate
TeleVideo & WordStar
Hard Disks

#1R: CP/M® (revised)
Learning to Use CP/M • Impatient User's Guide® to CP/M • Using CompuServe® • Preventing Computer Disasters •

#2: WordStar® & SuperCalc®
A Guide to Using WordStar • Impatient User's Guide to WordStar • WordStar Installation Guide • A Guide to Using SuperCalc • Disk Doctor: The Rx For Bad Disks • For Starters: Word Processing & Spreadsheets •

#3: MailMerge & Modem7
MailMerge: WordStar's Printing Robot • Impatient User's Guide to MailMerge • Using DocuMate Plus and The Word Plus • Using Footnote and Bibliography • Modem7 Tutorial and RCP/M List • WordStar File and Print Summary • For Starters: Word Processing Power •

#4: CP/M Plus
Overview of CP/M Plus • Guide to SuperCalc (Pt. 2) • SuperCalc SuperSummary • CP/M Plus Operating Tools • Reference Guide to DU (Disk Utility) • Overview of Floppy Disks • System Overview: CompuPro 8:16 • For Starters: Exploring dBASE II •

#5: dBASE II
Introduction to dBASE II • dBASE II Application: Subscription Fulfillment • Perfect Filer Overview & Starter • Using CP/M Plus (Pt. 1) • CP/M Plus: Inner Workings • Hard Disks For Small Computers • WordStar on the TeleVideo 950 • System Overviews: Radio Shack Model 100, PMC MicroMate •

Special Offer:

#1-#10 for $30, #7-#13 for $20,
#1-15 for $50. (cover price: $4.50 and up)

☐ SPECIAL OFFER: Issues #1-#10 for $30	(+$10 First Class)	$________
☐ SPECIAL OFFER: Issues #7-#13 for $20	(+$5 First Class)	$________
☐ SPECIAL OFFER: Issues #1-#15 for $50	(+$15 First Class)	$________

Payment must accompany order. TOTAL ENCLOSED:
We accept Visa and Mastercard. Phone: 415-364-0108.

Name ____

Company ____________________ Title __________________

Address ____

City, State, Zip __________________________________

☐ Check if you are already a subscriber, or are sending in a subscription card.

Make checks payable to: User's Guide. Offer expires 12/31/85
Back Issues Dept.: P.O. Box 5245, Redwood City, CA 94063.
Please allow 6–8 weeks for processing
or add First Class postage.

User's Guide is a trademark of TUG Inc.
CP/M is a registered trademark of Digital Research, Inc.
MS-DOS is a trademark of Microsoft.

UG 16

#6: Communications

CompuServe Electronic Mail • CompuServe Public Access & File Transfers • Communications Programs: COMMX and MITE • Guide to Using WordStar (Pt. 2) • Converting From Perfect Writer to WordStar • WordStar vs. Perfect Writer • CP+ and Organizer: Menus for CP/M • Cache/Q: A System Enhancer • Glossary of Computer Communications Terms • For Starters: Communications •

#7: T/Maker III & CP/M Plus

T/Maker III: Integrated Text Processor, Spreadsheet and Table Maker • Using CP/M Plus, Pt. 2: Utilities For Automation • FILEBASE for Personal Computers • Proportional Printing With Perfect Writer • MS-DOS and PC-DOS Overview, Pt. 1 • Making Communications Connections • For Starters: Brief Tour of CP/M Systems • System Overview: DEC Rainbow • **Annual Index for issues 1-6** •

#8: Accounting Packages Compared

Show Report: Softcon and 9th West Coast Computer Faire • For Starters: Computerized Accounting • Small Business Bookkeeping: Taranto's General Ledger • MS-DOS and PC-DOS, Part 2 • Comparing Accounting Packages: Accounting Plus vs. SBT • Using Mini-Ledger • Patching With DDT and SAVE • dBASE II Tutorial, Part 2: Indexing and Sorting • ASCII Chart •

#9: Multi-User and Concurrent Systems

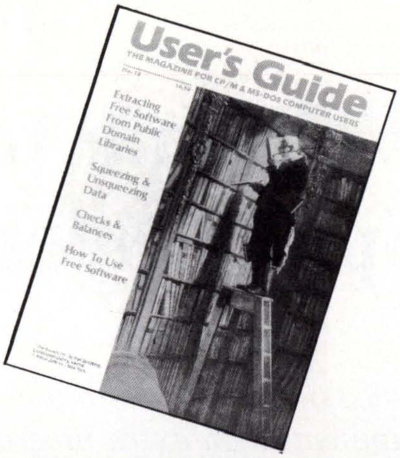
For Starters: Multiple Users and Multiple Computers • The Sleaze Patrol • The Meaning of Concurrency • Concurrent CP/M-86 and MP/M-86: Files, Disks, Spooling and Printing • Concurrent CP/M-86: Versions for DEC Rainbow, IBM PC • MP/M-86: Version for CompuPro • NewWord Evaluation • Bible Study by Computer • Punctuation & Style Evaluation • System Overviews: OSM Zeus 4 Network, Ampro Bookshelf Computer •

#10: Amateur Programming

For Starters: Computer Languages • File Handling Utilities • Running MBASIC Programs • Turbo Pascal • From Source To Object: Executable Programs • MS-DOS and PC-DOS (Part 3) • Batch Processing in CP/M and MS-DOS • The CBASIC Compiler: CB-80 and CB-86 • Giving Data to a BASIC Program From the System Command Line •

#11/12: Special Double Issue

For Starters: Free Software: Getting It • The Sleaze Patrol • Columns By WordStar • What Is ZCPR3? • CLIP: a Command Line Interpreter • Comparison: EUREKA! vs. CATALOG • Calling Bulletin Boards For Free Software • Using Modem7 • Free Software: the Newest Modem7 (MDM740) • WordStar Games Your Mother Never Taught You (Part 1) • Make NewWord Work For You • Phone List of RCP/M Bulletin Board Systems • CP/M Error Message Index •


User's Guide
THE MAGAZINE FOR CP/M & MS-DOS COMPUTER USERS
Extracting Free Software From Public Domain Libraries
Squeezing & Unsqueezing Data
Checks & Balances
How To Use Free Software

#13: Using Free Software

For Starters: Free Software: How To Use What You Get • ESCapades • Squeezing and Unsqueezing Files • Library Files and Utilities • Free Software: Cataloguing Your Disks • Evaluation: Checks & Balances • Application: Local Network of Bowling Centers • **Annual index for issues 7-12** •

Act now to complete your set of *User's Guide* back issues! Limited offer while supplies last! This may be your last chance to get a complete set!

User's Guide
P.O. Box 5245
Redwood City, CA 94063

BACK ISSUES

Order now while supplies last! Payment must accompany order:

#1, 2, 3 or 4 Qty. ________ at **$6** each = $____________________
#5, 6, 7, 8, 9 or 10 Qty. ________ at **$5** each = $____________________
#11/12 Qty. ________ at **$8** each = $____________________
#13 or 14 Qty. ________ at **$4.50** each = $____________________
CP/M Summary Cards Qty. ________ at **$2** each = $____________________
First Class Postage and Handling. Qty. ________ at **$1.50** each **OR $1** each for 4 or more. $____________
Foreign airmail add **$3** per copy or **$10** per 4 copies = $______
TOTAL ORDER: $______________

Phone: 415-364-0108.

Payment by charge card: ☐ Visa ☐ Mastercard Exp. date __________
Card # ____________________ Interbank # __________
Signature required: ______________________________
Name ______________________________
Company ____________________ Title __________
Address ______________________________
City, State, Zip ______________________________
☐ Check if you do not want promotional mailings.

Make checks payable to ***User's Guide***. Offer expires 12/31/85
Back Issues Dept.: P.O. Box 5245, Redwood City, CA 94063.

Please allow 6–8 weeks for processing
or add First Class postage.

UG 16

Welcome to Spellbinder

A powerful word processing program that resembles dedicated word processing equipment, with extra macro-programmability.

by Thomas Howe

Spellbinder is a well tested writing tool that has been around in one form or another for several years. Produced by Lexisoft of Davis, CA, it is quite powerful and offers innovative features for a CP/M word processor.

Spellbinder is quite different from WordStar — if you come from that background you will have to do some relearning. However, it is not that difficult once you understand it. It is quite delightful to be able to do 95% of my work with about 20 commands that make sense.

There are several "mind-set" factors you must consider to change to Spellbinder. If you migrate from Perfect Writer, the changes will not be nearly so radical.

The first thing you notice is that there is no immediate on-screen formatting. Text is entered without any formatting ques and little in the way of enhancements. (Enhancements are performed immediately and may appear as blinking words or as variously shaded words.)

The real formatting takes place at print time. Spellbinder formats as it prints and does it quite rapidly. There is no two step operation as with Perfect Writer.

If you must preview your printed text, you may do so. The `va` command allows you to view text on the screen in printed form. Scrolling is controlled by the spacebar.

On the newer Kaypros, Spellbinder is quite easy to learn. You can install it to use the keypad as function keys. A command menu is displayed on the bottom two lines of the screen using inverse video. Prior to entering Spellbinder, you run a programmed copy of Keypad or something similar to initialize the keypad. Then you are in business.

On the older (2-83) Kaypros, you will have to work a little harder as Lexisoft has not yet enabled the installation program to utilize that key pad. You will need to learn the commands individually. If you get away from their manual and practice with it a little, there are only a few commands you really have to know.

The major difference between Spellbinder and WordStar is that Spellbinder works in "overstrike" mode. Also, Spellbinder is memory-oriented.

The major difference between Spellbinder and WordStar is that Spellbinder works in "overstrike mode" all the time. This means that you will be entering text with the ability to correct errors by simply backing up and typing over the mistake. To make insertions, you must switch into "insert mode".

WordStar normally operates in "insert mode" (unless you install it differently). This can makes WordStar slow at

Copyright © 1985 Thomas Howe

times, especially when you want to make an insertion between paragraphs. On my vintage Kaypro, I have to wait at the end of each line while it re-writes the screen. Spellbinder lets me type as fast as I wish under all circumstances.

Unlike WordStar, Spellbinder is memory oriented. This means that it may gag when you try to write anything too long to fit completely in memory. It can handle the job, though. You just have to learn a few more advanced editing techniques. In contrast, WordStar will create a temporary file on disk. Excess text is swapped back and forth as needed to allow free movement.

The Spellbinder manual is written in tutorial fashion, but is a little heavy to wade through. The print is tiny and the educational psychology is weak. There is a tendency to burden the user with complex commands from the start rather than taking the straight route to understanding and usefulness. The more complex commands should have been saved for later after the user gets comfortable with ordinary writing.

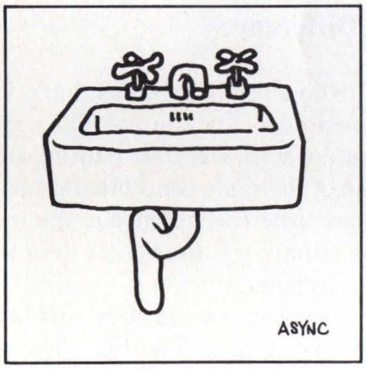
Spellbinder has an immense amount of power that I can only begin to tap in an introductory tutorial. Intricate formatting is possible. You can use its footnoting and advanced document preparation features. It even has a limited amount of calculation ability. You could design a very simple spreadsheet with it.

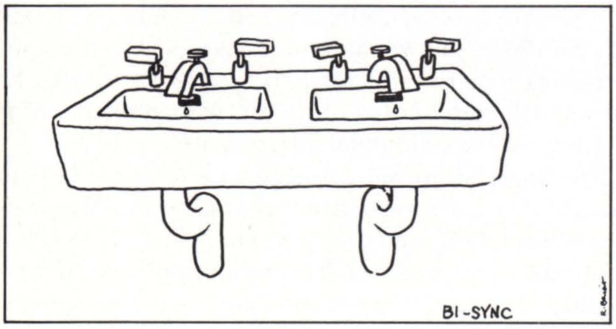
Spellbinder has the ability to handle printed forms and write invoices. These can be logged and stored on disk for easy access. You can develop large and complex documents. Since the text is stored on disk as straight ASCII text, there is no need to go through and strip out garbage as with WordStar files when you want to set type from the disk.

Sophisticated jobs are handled with macros. You can write Lexisoft for a technical manual and develop your own macros as needed using their Macro Programming Language supplied with Spellbinder. Seventeen macros are included with the program.

Also included are the Electric Webster spelling checker and a grammar and punctuation checker. If you have done Microcornucopia's Pro-8 upgrade to quad-density disks, these will all reside comfortably on one disk and can be run from the Spellbinder command line. Otherwise, you have from two to four disks.

We present an introductory tutorial in this issue. Application notes will follow in subsequent issues. We plan to cover both common functions and esoteric powers of Spellbinder.





© 1985 RENEE BENOIT

ADVERTISER INDEX

	Service	Page
1.	AwareCo	55
2.	Axess Software Support Sys	20
3.	Baen Books	5
4.	Bakup News	33
5.	CDE Software	45
6.	Computer Faire	c3
7.	Delphi Data Systems	53
8.	Desktop Publishing	75
9.	Dr. Dobbs Journal	43
10.	Echelon	71
11.	FOG (First Osborne Group)	19
12.	Kaypro Corp.	c2
13.	Micro Cornucopia	31
14.	Morrow Owner's Review	37
15.	New Star Software	57
16.	Osborne Computer Corp.	1
17.	PeopleTalk Associates	38-39
18.	Plu*Perfect Systems	61
19.	Portable Companion	65
20.	User's Guide (subscriptions)	21
21.	User's Guide (back issues)	22-23
22.	Viasyn (formerly CompuPro)	c4
23.	Visionary Electronics	72

CP/M-80 • MS-DOS •
CP/M-86 • Turbo-DOS •
PC-DOS • Oasis •

A Quick Tour of Spellbinder

An impatient user's guide to Lexisoft's Spellbinder® — hands-on instructions spiced with review comments.

by Thomas Howe

The Spellbinder® Word Processing and Office Management System is from Lexisoft, Inc., Box 1378, Davis, CA 95617 (916-758-3630). Suggested retail is $500. Available for CP/M, MP/M, CP/M-86, MP/M-86, MS-DOS, PC-DOS, Turbo-DOS, and Oasis operating systems.

Does Spellbinder have you mystified or spellbound? Is this the potion to end all your word processing worries? Touted as the superior word processor, Spellbinder brings a tremendous amount of power to your fingertips while claiming superiority over all other writing tools. In short, there is little it cannot do.

Donna Fargo had a hit song a few years back with the key line "I'm kinda dumb, I guess. . ." that perfectly describes my initial reactions to Spellbinder. Being completely at home writing with Perfect Writer® (Thorn/EMI), WordStar® (MicroPro Intl.), and NewWord® (Newstar Systems), Spellbinder was and still is a little of a shock to my system. I am still learning its more advanced features to that I can produce detailed application notes.

Conceptual Differences

I am going to do a very dangerous thing. I am going to assume that you are already familiar with some other popular word processing software; thus I anticipate that you will encounter some of the same conceptual problems I faced. Spellbinder bears little resemblance to the three mentioned above and may require you to re-think your whole idea of writing on the computer.

I suspect that some of you may be switching to Spellbinder from WordStar or considering this switch. The two products are very different. Spellbinder has many powers not found in WordStar, some of which you will find absolutely delightful.

If you are new to Spellbinder and familiar with products like WordStar, you will have to re-learn and re-think word processing from the ground up. It is really not all that hard, but you will have to work at it. This section should help by pointing out the conceptual differences.

Spellbinder bears more resemblance to an old fashioned line editor in some ways than to a product like WordStar. This is just how it seems to function. A line editor is a very raw boned word processor. The most primitive of these are supplied with operating systems and programming tools, e.g., E.COM with CP/M or ED.CMD with MS-DOS.

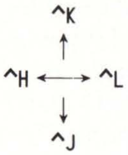
Don't get me wrong — it feels like a line editor, but Spellbinder actually is quite advanced and functions in a so-

Copyright © 1985 Thomas Howe

Spellbinder Basic Commands

Control-Q

EDIT MODE



^B ⟷ ^F

SCROLLING

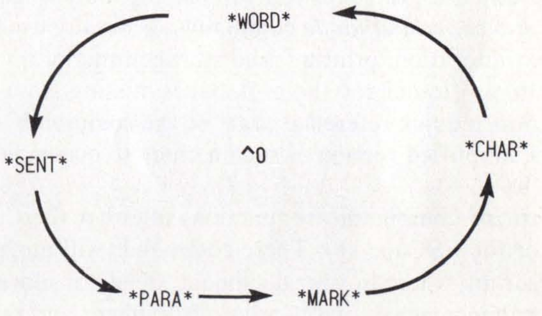
ESC T	GO TO TOP
ESC E	GO TO END
^V	NEXT "PAGE"
^G	LAST "PAGE"
^E	INSERT TOGGLE
^D	MODE DELETE
^Q	COMMAND TOGGLE

COMMAND MODE

T	GO TO TOP
E	GO TO END
DA	CLEAR WORKSPACE (deletes all in memory)
HE	HELP
VA	VERIFY ALL (gives on-screen formats)
PA	PRINTS ALL (below cursor position)
FF	FORM FEED on printer
GD	GET DONE (writes all to disk)
X	QUIT!

NOTE: There are more commands. These are the essential ones you need to get started.

mode wheel



Listing of Spellbinder commands.

phisticated fashion. Spellbinder has the advanced text manipulation and printing functions you'd expect and more. What I have encountered is the way Spellbinder addresses my vintage Kaypro without graphics. The newer Kaypros are able to show the correct enhancements on the screen. They also utilize very nicely the function key capability of the keypad, making Spellbinder quite easy to use.

Once you learn to harness it, you find that Spellbinder has more power than most of the others. There is an added feature that outstrips them all: macro-programmability, e.g., you can write your own utility software with the macro programming language interpreted by Spellbinder.

If your computer or terminal supports function keys (and your particular unit is supported by Spellbinder), then the job is immensely easier as the commands become more transparent. The commands are always echoed to some degree on the bottom of the screen. My old, battered Kaypro II has no true function keys. and no graphics wizardry. Because of this, I have to completely learn all the commands and manually enter them one by one.

I have a friend with a newer Kaypro IV-84. Spellbinder performs nicely with the graphics and function keys. He learned to use it in a fraction of the time it took me. Everything is at the bottom of the screen, thus there is less to commit to memory from the very beginning. The reminder line guides you along nicely.

The major difference between Spellbinder and WordStar is that Spellbinder does not give direct on-screen formatting. That requires an extra step, but is easily possible. In this respect, it more easily resembles Perfect Writer, but without some of the formatting problems. You will have to develop your estimation skills.

Spellbinder does do on-screen formatting via a special command. You are allowed to VERIFY your text prior to printing. Facier than normal textual enhancements are done via macros such as PAGER. This includes footnotes (requires the FOOTNOTE macro also) and other special text enhancements. You will have to view (and store on disk) your processed text. Then, if you see something you don't like, you may find yourself re-editing and re-doing PAGER to check the file.

Another major difference is that Spellbinder always operates in the *overstrike* mode, meaning that an extra command is needed to open space for insertions between characters, words, or lines. Corrections are easily made by simply typing over the errors and cleaning up stray space. In comparison, WordStar normally operates in *insert* mode: you can easily insert additional copy simply by placing the cursor where the insertion belongs and typing it in.

If you are moving from a dedicated word processor like the WANG, this overstrike mode will not likely bother you, since many of these use it normally.

The command structure of Spellbinder is a little more confusing, but does make sense once you become used to it. There is an eleven page supplement at the back of the manual listing the commands in broad general categories. There are two levels of commands, some of which are similar for same functions, some of which are not. The two levels are *editing* commands, the ones you will use the most when writing, and *command mode* commands, generally used for major text alteration, printing, and storage functions.

Something I found very helpful, but is missing from the manual, was a quick reference chart of the commands. I provide a simplified version of such a chart to accompany this article.

The *editing* commands are functions of either the Control key or the ESCape key. These commands will move your cursor anywhere in your document, delete or move text, set enhancements, and handle soft hyphens and tabs. You will do fully 90% of your work with these.

You must use the *command mode* commands to write your text on the disk, perform searches, format and print, or execute a macro command file (a third type of command). Use Control-`Q` as your toggle switch to move from one level to the other. Some of these commands are complex and require some thought as they can wipe out text if mis-used. For instance, there is a selection of 14 different read/write commands for disk operations.

There is something else you must bear in mind. Spellbinder is memory oriented. It works very well with text that fits in your available memory. It can handle larger blocks of text, but, past a certain point (determined by the size of your RAM), will not allow you to scroll back for re-editing. Blessed are you who operate under MS-DOS with much RAM! I can only process about 10 double-spaced pages comfortably at once. I write a series of short files each under 18K, then append them all together prior to my final printing. This technique annoys me to no end.

As if this weren't enough fun, alas and alac for the documentation. The manual is very orderly and will essentially teach you how to run Spellbinder, but I'll guarantee you that it is *not* light reading. The first chapter on the basics is fairly decent, but soon gets lost in minutiae as they choose to teach you the most difficult disk read/write commands rather than the one you will use most often. It's downhill into an ocean of fine print from there on. Score one for WordStar 3.3. That manual will actually teach you in an easy, simple fashion.

While both WordStar and Spellbinder require some knowledge of your operating system, your knowledge should be more intimate to use Spellbinder. The operating system is much nearer the surface both in terms of echoed messages and file processing requirements. Text handling is a little more raw boned; do you know what a buffer is?

If you are converting to Spellbinder from something else, you may need a little practice before becoming comfortable. I do not recommend going back and forth from Spellbinder to something else until you are thoroughly familiar with Spellbinder. Later, on, you can switch at will.

If this is your first word processing program, you have a mixed blessing, but things are definitely in your favor. You will not have to un-learn and re-learn much, but you will lack some of the conveniences of WordStar. With a little patience, you will do just fine.

> ***Spellbinder has a feature that outstrips the other popular word processors: macro-programmability. You can write your own utility software with the macro programming language interpreted by Spellbinder.***

The Opening Screen

Once you have Spellbinder installed (a fairly straightforward process that is well documented), you are ready to begin writing with your new tool. At the `A>` (the "A prompt"), type `SB`↵ (↵ stands for the Return key).

In a few seconds, Spellbinder will present you with an identifying message giving its serial number and version (I am using version 5.3). Near the middle of your screen is the instruction to `! [HIT A KEY] !`. Hit one gently, please. This will cause Spellbinder to complete loading itself into memory and become ready for your input.

Before doing anything else, take just a minute to look at the opening screen. Become familiar with its features.

First, find your cursor. It may be a blinking underscore character or a block, depending on how Spellbinder addresses your operating system. You will find this in the center of your screen on the extreme left side. Type several characters just to see where it is and how it moves.

Next look at the two lines at the top and bottom of your screen. At the top you will find a message line. At the bottom, you will find a reminder line with the basic commands (or references to your function keys).

The message line always contains important information to tell you where you are in your work, how the computer is handling your work, and what your command status is. In the top left corner (the "home" position), you should see the word `EDIT`. This means that you are operating in the `EDIT` mode and thus, can begin to type text into the machine. You will use this mode for *all* text entry.

While you are looking at the `EDIT` message, try something: enter a Control-`Q` (`^Q`) and see what happens. The word `EDIT` disappears and, in its place, you will see `COMMAND:`.

You have just toggled Spellbinder into its COMMAND mode. In this mode, you are allowed to make major alterations and operations with your text. Retain this information for later when you are ready to print something. For now, enter `^Q` again to "toggle" back to `EDIT` mode.

In the middle of the message line, you will see the following information:

```
L 0001 C 001    *WORD*
```

The first two items are the cursor's position within the document. What you now see indicates that you are on line #1 (`L 0001`) at column #1 (`C 001`) . These values will change and constantly update your position. You will also use these values as reference points to move around in your text.

Type a few characters and enter a few Returns to see how the values change. This is also a good time to try out your cursor arrow keys to see if they work properly.

The `*WORD*` message to the right of your position indicates which size of unit the cursor and editing commands will respond to. This can be changed from `WORD` to `SENTENCE` to `PARAGRAPH` to `MARK` to `CHARACTER` and back to `WORD`. Enter a series of `^O` (Control-`O`) commands and watch this legend change. I choose to call this command the *mode wheel.* Now mentally file this information for later use. I will return to this concept when you are ready to delete and insert information.

At the bottom of your screen in the REMINDER LINE are some helps in case you forget which command to use. I will not go into too much detail about these as this line may vary from one machine to another. The graphically oriented systems with function keys have it nicest. They reflect exactly what you are doing and how it will be done very clearly.

On-line help is available if you need it. This will remind you of the functions of al the commands. Try it: enter `^Q` to toggle into command mode.

At the `COMMAND:` prompt, enter **`he`**↵ (commands may be entered in either upper or lower case, it makes no difference).

The computer will respond by clearing the screen and presenting a message to request a file name. Your work will temporarily disappear from the screen, but don't worry. It's not lost, only temporarily pushed aside.

`HELP FILENAME>` (with the cursor) will appear in place of the `COMMAND:` prompt. Under that will be the instruction `Type ''HELP'' for help menu.` Enter **`A:help`**↵.

The screen will change again, presenting you with the following menu:

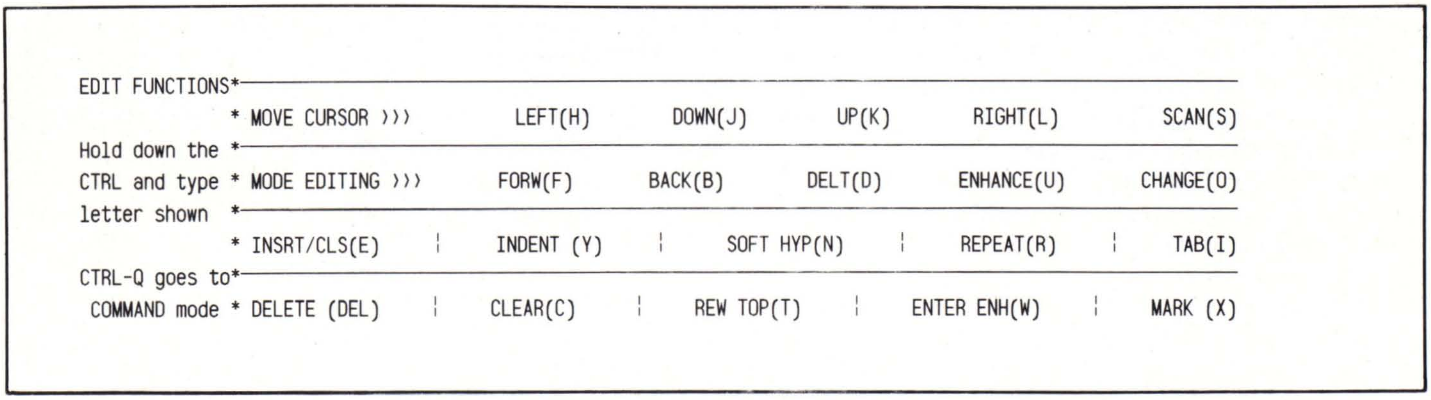
```
HELP IS AVAILABLE FOR: 1: EDIT mode commands
                       2: COMMAND mode commands
                       3: DISK commands
                       4: PRINT commands
                       5: PRINT TABLE commands
                       6: DYNAMIC PRINTER commands

After you have been helped, strike the RET key and
the help messages will be removed from the screen.

Type the number for the subject on which you need help: *
```

To see how this works, enter the number 1 (no Return is needed). The screen immediately changes to show you the editing commands (figure 1).

All the editing commands are shown in figure 1. (This help file is a regular Spellbinder text file; you will want to print it later as a reference.) When you are done looking at this reference, press Return to go back to your original screen of text.

Your text should not be disturbed, and the cursor is right back where you left it. The help feature is available any time you need it.

Figure 1. *Quick summary of the EDIT commands in Spellbinder.*



```
EDIT FUNCTIONS*--------------------------------------------------------------------------
              * MOVE CURSOR >>>      LEFT(H)      DOWN(J)       UP(K)      RIGHT(L)      SCAN(S)
Hold down the *--------------------------------------------------------------------------
CTRL and type * MODE EDITING >>>    FORW(F)     BACK(B)      DELT(D)      ENHANCE(U)     CHANGE(O)
letter shown  *--------------------------------------------------------------------------
              * INSRT/CLS(E)    ¦   INDENT (Y)   ¦    SOFT HYP(N)   ¦    REPEAT(R)    ¦   TAB(I)
CTRL-Q goes to*--------------------------------------------------------------------------
 COMMAND mode * DELETE (DEL)    ¦   CLEAR(C)     ¦   REW TOP(T)     ¦   ENTER ENH(W)  ¦   MARK (X)
```

Getting Started

Since you are still in command mode (from the last exercise), enter the command `DA` to clear your workspace of any and all garbage. This is the DELETE ALL command. This deletes every bit of text in your computer's memory. (Remember, use this command judiciously!)

The computer responds with `REALLY Y/N?` This is a safety feature to prevent accidental deletion of your work. Respond with `Y` and your screen is cleared and ready for new work.

Text Entry and Cursor Movement

Now pick a short paragraph from anywhere and type it in. Do not worry about mistakes as I will show you how to move around and correct them very soon. Just type about four or five lines onto the screen.

Remember not to touch the Return key till you are finished with a paragraph. Spellbinder will automatically move words that extend past the right side of your screen to the next line. This is called "wrapping".

If you made some typing errors, that is just fine for now. First, you need to learn how to move your cursor. Use the arrows (if they work correctly) to move somewhere near the middle of your text.

Now, experiment with the basic cursor movement controls. Enter Control-`H`, Control-`J`, Control-`K`, and Control-`L` (`^H`, `^J`, `^K`, `^L`). What happens? Your cursor should have moved back, down, up, and then to the right. Practice these for a minute until you are familiar with them. You will need these cursor movement controls if you want to move the cursor without leaving the home keys or if your arrows do not work correctly for some reason.

Now try two more cursor commands. Enter Control-`F` and Control-`B` (`^F`, `^B`) and watch what happens as you enter them. These commands will move your cursor forward and backward one word, always to the beginning of a word. If there is a punctuation mark or other character in between, it will stop there.

You can also change the mode with Control-`O` (`^O`) and move forward or backward in larger units of text. This is the *mode wheel* I mentioned.

Experiment with these commands as long as you like, then reset the mode (`^O`) to `*WORD*`.

Two major cursor commands are used to move to either the beginning or end of your work. Press the ESCape key, then enter the letter `T`. No matter where you are in your work, this command will bring you to line #1, column #1, the very first character of your text.

Now try ESC-`E` (ESCape, then the letter `E`). This will move you from anywhere in your work to the end of the text.

Try these two commands in succession a few times to see what happens.

Scrolling

There are two scrolling commands you will use frequently. *Scrolling* means "turning the page" electronically. In Spellbinder, this means advancing your text to show the next or last 21 or so lines.

If you have more than one screen full of text in memory, you can try this (otherwise, try it later). Press Control-`V` (`^V`) to scroll forward to the next "page." Press Control-`G` (`^G`) to scroll backward one screen or "page."

Deletions and Corrections

Move your cursor to the top of your text. Now find your first error (unless you didn't make any). Move the cursor till it rests on top of an incorrect character.

There are three ways of correcting typographical errors and you will need to know them all. They are: 1) simple deletion of unwanted characters, 2) overstrike correction (you re-type the correct information on top of the old), and 3) the delete and insert (explained later).

With your cursor on top of an unwanted character, press your DELete or RUBout key. This should delete the character and move all remaining text on that line to the left one space. Choose a word you don't want or can dispense with and delete it this way. For a six letter word, you will have to press the DELete key six times.

Most word processors I have encountered will delete the character to the left of the cursor; Spellbinder deletes the character the cursor rests upon. Remember this difference if you are switching to Spellbinder.

Now it is time to try the second method of making corrections. For this, type another sentence (any sentence will do) at the end of your paragraph. While typing the sentence, intentionally misspell a word. Stop immediately after this word and back up to the beginning of the word (`^B`). Now, retype (don't do anything else) the word with the correct spelling and complete your sentence.

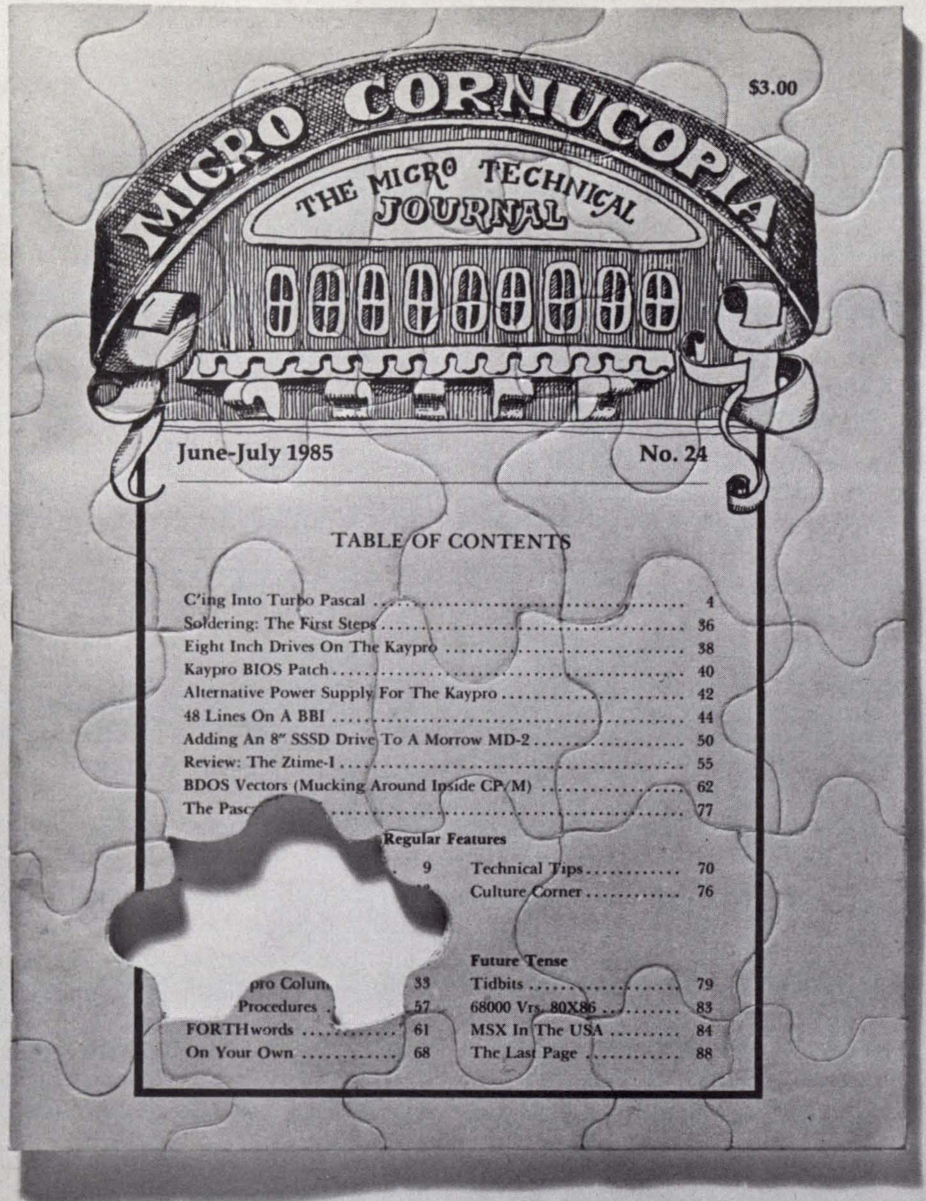
Since most typists tend to catch their mistakes as soon as they make them, this method of simply re-typing is the fastest way to make corrections. You will not have to go back later for the correction if you do this regularly.

Practice these two correction techniques a little, then g on to the next step.

Making Insertions

Move your cursor to a spot between two words where you would like to insert another word.

Now, press Control-`E` (`^E`) and observe your screen. Your text immediately splits at the cursor's location. Your cursor remains in place while the remainder of the line it occupies is transported to the bottom of your screen just above your help message lines. Again, nothing has disappeared, it has



June-July 1985 No. 24

TABLE OF CONTENTS

C'ing Into Turbo Pascal 4
Soldering: The First Steps 36
Eight Inch Drives On The Kaypro 38
Kaypro BIOS Patch 40
Alternative Power Supply For The Kaypro 42
48 Lines On A BBI 44
Adding An 8" SSSD Drive To A Morrow MD-2 50
Review: The Ztime-I 55
BDOS Vectors (Mucking Around Inside CP/M) 62
The Pasc 77

Regular Features

. 9
pro Colum 33
Procedures . 57
FORTHwords 61
On Your Own 68

Technical Tips 70
Culture Corner 76

Future Tense

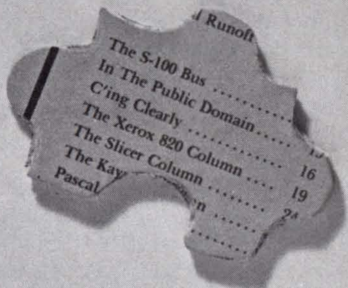
Tidbits 79
68000 Vrs. 80X86 83
MSX In The USA 84
The Last Page 88

Puzzled about what's going on behind the scene?

As a reader of *Users' Guide* you're getting in-depth looks at the software that makes your system sing. Chances are you're also interested in knowing what does the singing.

In *Micro Cornucopia* (Micro C) you'll get the inside information on hardware and systems software, information that will help complete your understanding of your computer.

So fill in the order form and fill in the rest of the puzzle.



Runoff
The S-100 Bus ....
In The Public Domain ....
C'ing Clearly ....
The Xerox 820 Column 16
The Slicer Column 19
The Kay
Pascal

Quantity	Description	Price	Total
	Year Subscription (6 Issues)	**$16⁰⁰**	
	Canada & Mexico **Other Foreign**	**$22.00** **$30.00**	
	(US Funds only, payable on a US Bank)		

NAME
ADDRESS
CITY
STATE ZIP

Only **$16⁰⁰**

Make check or money order payable to:

Micro Cornucopia
Magazine

P.O. Box 223 · Bend, OR 97709

☐ VISA ☐ MasterCard

Card No.

Exp. Signature

Circle number 13 on the reader service card.

RISK FREE

If you're not delighted with Micro C after receiving your first issue, just drop us a note and we'll refund your entire $16, no questions asked.

Order Number (503) 382-5060

only been pushed aside temporarily.

Look at the message line at the top of your screen now. Just to the right of `*WORD*` you will now see `*INSERT*`. This reminds you that you are in insert mode. Control-`E` is a toggle that will switch you in and out of insert mode. Try it a few times, then toggle into insert mode for the next step.

Enter a new word that you desire to insert into your sentence. follow that word with a space. Then enter Control-`E` again. Your text will return from the bottom of the screen to close up the space around your insertion. The paragraph is automatically re-formed to eliminate wasted space.

Delete and Insert

Now try to use this method for making corrections. Move the cursor to the first character of a word you want to change completely.

Use the MODE DELETE command Control-`D` to delete the entire word. The words to its right will immediately move left and close up the space.

Now, enter Control-`E` to toggle into insert mode. Type in the new word you want to replace the old one. Toggle out of insert mode and observe how the spaces have closed up around your insertion and that the paragraph is now re-formed.

This technique can be used to replace anything from words to whole paragraphs. Use Control-`O` (the mode wheel) to toggle your mode and delete any size unit you want. The toggle works in a circular fashion, rotating around from one size of block to another. Anytime you start typing, the mode wheel will automatically return to `*WORD*` status.

Be careful when deleting, as Spellbinder does *not* have an UNDO function to recall accidentally erased text. It will be lost and gone forever.

Keep practicing. I suggest you enter one or two more paragraphs for practice and experiment with the movement and correction techniques outlined here. When you are tired of this, move on to the next section to print your work and store it on disk.

Printing Your Work

Printing is the most important feature of any word processing program. This determines whether or not you buy back your old typewriter. Spellbinder has many advanced printing functions, some of which can only be addressed via macro commands. We won't worry about the fancy stuff yet. It is time for you to experience the satisfaction of looking at your work on paper.

Toggle into command mode now with Control-`Q`. You must be in command mode for all printing and disk operations. Look for the `COMMAND:` prompt at the top left corner of your screen.

Verify Printed Appearance

It is time to see what your work might look like when it is printed. You must first move to the absolute beginning of the text to do this. Enter the command `T`↵ and almost instantly Spellbinder will move you to line #1 column #1.

Enter the command `VA`↵ This causes Spellbinder to display on your screen all your text exactly as it plans to print it. This will be scrolled from the bottom of your screen much the same fashion as rolling paper through a typewriter.

While doing this, you will be asked to hyphenate words as necessary. The command prompt will be replaced by the legend `HYPHENATE: THISWORD`. Use your left cursor arrow to move the hyphen that appears to the right of the word into the spot you think it belongs. Press Return to install your hyphen. If Spellbinder can accept the resulting word length, it will clear the message line and proceed to present "verified" text on the screen.

If you re-edit later, this hyphen will appear as a vertical bar character (¦, 7C in hexadecimal). It will not affect printing if later on the word shifts to another position in the line, but will affect some spelling checkers unless you can train them to ignore this firm hyphen.

Hyphenation works nicely with one exception. If you cannot logically hyphenate a word (no correct or proper break, monosyllabic, or whatever), Spellbinder will not completely accept your verdict that it cannot be broken. When you attempt to print, you will again be asked to hyphenate the word. Simply press Return when this happens to force Spellbinder to move the word to the next line.

Try this a couple of times, looking each time to see what Spellbinder is doing to your work. If the screen scrolls too fast to see and comprehend, simply tap the space bar to stop the scrolling. Press the space bar again to get it rolling again.

Print Your Text

Turn your printer on and make sure it has paper. Also double check to be sure your cables are properly installed.

For the simplest of all possible printing operations, the commands are quite simple. As you gain proficiency with Spellbinder, you will develop your own personal document style complete with lots of nice enhancements. For now, all will be very well if you can read your work in black and white.

To test your printer connections and be certain Spellbinder is conversing with the printer, enter command `FF`↵ to cause a formfeed. This should cause your printer to roll out a blank sheet of paper. If this works, you should be ready to proceed.

Go back to the top of your work (the command `T`↵).

Enter command `PA`↵ to print everything in your workspace. This should cause your printer to produce exactly what you saw on the screen a minute ago. Check this out and be proud. You just about have a handle on Spellbinder.

Don't worry too much now if things don't look exactly right. You will need to practice printing and preparing to print for a while before you master the art. Spellbinder has an extensive set of tables (the Y and YT tables) in memory which must be altered to your specific needs.

Consult Chapter Six of the Spellbinder manual for a detaled explanation of this process. You can do a lot of different and very nice things when you learn how to harness this fine steed.

It is time to store this fine example of the writer's craft on the disk and rest for a while. You should still be in the command mode, so go back to the top of your text. Do you remember how?

Enter command `GD`↵ to write everything in your workspace onto a disk. `GD` translates roughly into GET DONE; meaning that you are completely finished editing this piece of text and you want to store it on disk. I hope you had the foresight to either leave blank space on your program disk or to already have a blank disk in the B drive. This should be a short file, so not much extra space is needed.

The command prompt disappears; in its place you see the query `WRITE FILENAME>` as Spellbinder asks you how to store your masterpiece. Call it something simple like `B:FIRST.TRY`↵. Spellbinder stores the text on the B drive as file FIRST.TRY. Check your directory before turning the machine off to see that it is there.

Yes, you are almost ready to turn it all off and rest easy in the knowledge that you can master Spellbinder with all its little intricacies. Before you do that, though, take a second to notice that Spellbinder has cleared your screen and displayed a legend at the top showing exactly how many characters it wrote to the disk. This is the exact length of your file.

Enter the command `X`↵ and Spellbinder will now return you to your operating system.

Higher Powers

Spellbinder has powers you have not even imagined. Perhaps this is why you purchased the software. You expect a lot from it, and rightly so, especially if you just plunked down $500 and cannot return it.

Spellbinder will deliver. Included in your package is the Electric Webster electronic dictionary with about 50,000 words. You may elect to check your spelling with this one. There is little need to run out and purchase a different spelling checker.

Also included is the Electric Webster grammar checker, designed to offer additional safeguards against murdering the Queens English.

Both of these reference works have lots of options you will want to explore at your leisure. Save them for a little while as you become more familiar with the main program. These little bonuses are nice, being worth about $250, yet thrown into the package for free.

If you are really adventurous, you can inquire of Lexisoft about the foreign language or scientific versions of Spellbinder. I understand it is available in an Arabic version for those of who are so blessed.

The macro programming language offers entire frontiers of adventure for the boldest among you. This is a limited task programming language designed to allow you to devise your own utilities to perform special tasks. It will not do IF/THEN statements — it is entirely linear in design.

You should plan to experiment with the 20 or so macros included on your program disk. These handle such functions as sorting a list, merge printing, printing two columns on a page, limited invoicing and extensive forms handling, and even make your word processor into a desk calculator. You can even use a canned macro to develop a paper with footnotes.

There is a lot Spellbinder can do for you. I urge you to take a little time and experiment with it. The experimentation will pay off in the long run when you are able to produce very fine reports, correspondence, etc. with ease. Just take your time and be patient. You can master this software.

BAKUP

where

$10 Still Goes A Long Way!

- Membership in ***BAKUP,*** *(Bay Area Kaypro Users and Programmers)*
- Subscription to ***BAKUP News,***
  Our Monthly Publication Featuring:
  Software Reviews
  How-To Articles
  General Commentary
- Use of Our Member-Only RBBS/RCPM
- Access to Our 40 Volume (and growing) Software Library
- Monthly Meetings
- Free Classified Ads in ***BAKUP News***

Send your $10 check or money order
(overseas orders, $20—U.S. funds please) to:

BAKUP
P.O. Box 20181 Oakland, CA 94620

Circle number 4 on the reader service card.

TUTORIAL

Spellbinder File Conversions

Convert WordStar files into Spellbinder files and back again!

by Thomas Howe

File conversions between different word processors are amajor problem for writers who exchange articles or make electronic submissions. I recently experienced this with some Spellbinder text files. My editors discovered they had immense difficulty editing the disk files.

Many editors are accustomed to working with and setting type from WordStar text, even with all its garbage. WordStar loads its text files with various control codes, extra spaces, complex end of line and end of paragraph codes, and other formatting extras. If you ask WordStar to edit a file that is missing some of these features, it will hiccup in a most profane fashion.

Spellbinder and WordStar do not get along. Spellbinder produces what Lexisoft refers to as "ribbon text". The result is that WordStar will display your entire file on one seemingly endless line. Editing files like this is a leading cause of migraines.

I had to find a way to convert my Spellbinder files in order to sell articles. None of the public domain utilities I knew of would quite make the trip, so I was almost up a tree; that is, until I talked to the good folks at Lexisoft.

Lexisoft has a nice stand alone utility program available for CP/M systems that will convert WordStar files to Spellbinder files. It cleans out the garbage and rearranges the text into a ribbon.

They do not normally furnish this utility with version 5.3, so you will have to write Lexisoft to request/purchase it. This approach does not make much sense, but that is the way it is. The utility program is delivered with a five page manual loaded with nice technical information.

CONVERT.COM is a small program and very efficient. Its operation is simple and almost automatic. It is designed to read your text file one character (byte) at a time and translate each character appropriately. Useless garbage is filtered out and the right flavor of "soft" Returns is installed.

There is also something that Lexisoft will not readily admit to. CONVERT can retrofit a Spellbinder file for WordStar. The trick is that you have to do some rather extensive patching of the CONVERT program. Off the record, they told me it was possible; they just would not say how to do it.

Converting WordStar Files

Converting Wordstar files to Spellbinder format with CONVERT is fairly simple. Using the program as is without modifications, the whole process is almost automatic.

You simply enter the command line below and watch the action:

```
A>CONVERT d:infile.ext d:outfile.ext 2 ↵
```

The `d:infile.ext` is the name of the text file you wish to convert. The standard file naming conventions for CP/M apply: `infile` is a filename of up to eight characters, `.ext` is the optional period and three-character filename extension, and `d:` is optional the disk drive. The file may reside on any drive. Make sure this is a WordStar created file of ASCII characters; asking convert to transform anything else will result in unmitigated garbage.

The `d:outfile.ext` is the name of the file you wish to create when the conversion process is complete. CONVERT.COM will open this file and write the translated text in it. The original file is left undamaged — unless you absent-mindedly use the same names for output as for input. This file may also reside on any drive you choose; hence, you may read a file from one drive and write it to another.

The `2` is the option choice. Option 1 tells CONVERT to

Copyright © 1985 Thomas Howe

use its translate table to process the input file; this is the default setting. Option 2 tells CONVERT to assume that it is processing a WordStar file. This is funny because the built-in translation table is designed for exactly that. Use option 2 for this operation.

CONVERT will read your text one byte at a time and translate each character into useable text. The results are written to a disk file under the name you have chosen.

Your next step is to enter Spellbinder and call up your converted text file. It will look slightly strange as it is not a perfect Spellbinder file. It is close enough not to cause major difficulties.

You can now use Spellbinder's search and replace functions to find all the control characters (translated into printable characters) and delete them. When you delete them, use Spellbinder's Control-`U` command to add enhancements as desired.

Complete the conversion process by reforming the paragraphs. Spellbinder uses Control-`C` for this function. (This will not cause your computer to reset.) Unfortunately, Spellbinder does not allow for automatic reformatting (WordStar uses Control-`QB` for this). Repeat the command until you are done.

You are now ready to edit the file as usual with Spellbinder. Go ahead and have lots of fun.

Converting Spellbinder Files

It is only slightly more difficult to retrofit a file back to a WordStar format from Spellbinder. The extra difficulty is a one-shot patching of CONVERT.COM so it will do the job.

As I mentioned, the manual (three loose sheets of paper) is loaded with technical information. Everything you must know to make CONVERT retrofit a file is there, you just have to figure out exactly what must happen. The file CONVERT.COM must be patched using DDT to force the correct changes.

All patching is done in the translation table. This is the last segment of the program, beginning at memory address 1000H.

You should have some familiarity with DDT and its use before starting. Make a scratch copy of CONVERT.COM and place it in the B drive. As long as you use a scratch copy to play with, this is a good exercise for beginners to learn DDT with.

I recommend that you see Issue #8 of *User's Guide* for a good tutorial on patching files with DDT and SAVE. You may also want to consult some good computer texts on CP/M.

Assuming that you have DDT.COM on your system disk in the A drive, and your scratch copy of CONVERT.COM on the B drive, enter the following command line to begin this surgical procedure:

```
A>DDT B:CONVERT.COM↵
```

DDT will load itself, then load the convert program into memory. It will display a message informing you where the program begins and how long it is, all in hexadecimal notation. Below that is a command prompt, usually a minus sign.

This is what you should see on your screen:

```
DDT VERS 2.2
NEXT  PC
2000 0100
-
```

You will need a copy of a complete (256 character) ASCII chart for this job. *The Hexadecimal Chronicles* by Don Lancaster is a good source for this as he has designed a very readable chart. Issue #8 of *User's Guide* has one, as do some computer books.

Enter the `d` command (the - is the DDT prompt:

```
-d1000↵
```

The display in figure 1 should appear on your screen. Study the hex codes for a moment and compare them to your ASCII chart. You will notice that they are divided into 16 two digit columns. (If you use Control-`P`, then the `d1000↵` command, you can print this display.)

```
1000 00 FF 00 53 49 4E 47 20 52 45 43 4F 52 44 20 4F ...SING RECORD O
1010 01 7F 01 00 02 00 5E 41 42 20 43 4F 4D 50 4C 45 ......^AB COMPLE
1020 02 7F 02 00 02 00 21 30 4A 4F 42 20 41 42 4F 52 ......!0JOB ABOR
1030 03 7F 01 00 02 00 21 50 24 20 CA 3F 05 F6 80 2A ......!P$ .?...*
1040 04 7F 02 00 02 00 21 34 AF 06 3D 32 AF 06 C2 54 ......!4..=2...T
1050 05 7F 01 00 02 00 5E 45 04 7E 0D 0A 4F 50 45 4E ......^E.~..OPEN
1060 06 7F 01 00 02 00 5E 46 24 0D 0A 44 49 52 45 43 ......^F$..DIREC
1070 07 7F 01 00 02 00 5E 47 4C 0D 0A 24 0D 0A 52 45 ......^GL..$..RE
1080 08 7F 01 00 02 00 5E 48 45 4D 50 54 59 0D 0A 24 ......^HEMPTY..$
1090 09 7F 01 00 02 00 5E 49 55 4C 4C 0D 0A 24 0D 0A ......^IULL..$..
10A0 0A 7F 00 53 45 20 45 52 52 4F 52 0D 0A 24 54 52 ...SE ERROR..$TR
10B0 0B 7F 01 00 02 00 5E 4B 50 52 4F 47 52 41 4D 24 ......^KPROGRAM$
```

Figure 1. *DDT display of location 1000h of the CONVERT.COM file, which is the area to patch for making CONVERT transform Spellbinder files to WordStar files.*

If you examine column 1 for the next 255 lines (repeat the `d` command 21 times until line 1FF0 appears on the screen), you will see the hex designators for the entire ASCII character set, both 7 bit and 8 bit. You would be smart to print this table (Control-`P` if your printer is on) for reference so you can keep track of things as you go.

The second column tells CONVERT whether or not to mask the character. The third is the "tflag", telling convert what to do, be it translate the character, eliminate it, or pass it through unchanged. The remainder of the line across serves to define the length of the new characters and what they are to be. You may see some unknown garbage on the right hand side of the listing like in figure 1; this can be disregarded.

You will be changing many bytes of code using DDT's `s` command (e.g., `s1800`↵ to start changing code at location 1800h). Since the Lexisoft manual is so good about identifying each byte, I will not duplicate that effort. I will tell you what has to be changed.

Ending Paragraphs

WordStar uses a carriage return and linefeed sequence to end each paragraph (inserted when you press Return). It is a "hard" Return (one you enter by hand), so this hexadecimal sequence is used: `0D 0A`. Spellbinder does not use a linefeed character, hence WordStar will display a Spellbinder file as one continuous ribbon of text unless you add the linefeeds (0Ah). This addition will cause each paragraph to display as a continuous ribbon.

You will be changing the line to translate `0D`, a simple carriage return (line `10D0`) into this sequence. The current values ("etc. . ." means it does not matter what the rest of the line contains) are:

```
0D FF 03 etc. . .
```

The correct values are:

```
0D 7F 01 00 02 00 0D 0A etc. . .
```

Ending Lines

Spellbinder uses a simple control-`N` (shift out) as its soft carriage return to signal the end of a screen line. WordStar does not recognize this and thus cannot divide the text into separate lines.

Look at line `10E0` for the Control-`N` character. We need to eliminate this (Spellbinder's "soft" carriage return) and substitute a suitable "soft" carriage return. WordStar recognizes a space plus the 8-bit carriage return and linefeed sequence (`20 8D 0A`). These are inserted whenever WordStar performs wordwrapping or reformatting. WordStar can relocate this sequence anywhere it wishes when you reformat a paragraph.

The current values of this line are:

```
0E FF 01 00 02 00 5E 4E etc. . .
```

You will patch this to read:

```
0E FF 01 00 03 00 20 8D 0A etc. . .
```

Back up a little for a minor housekeeping matter. Look at line `10A0`, column 3 (location 10A3h). Currently, this byte tells CONVERT to eliminate any linefeed characters it encounters, indicated by the `00` digits in this location. Change this byte to `03` so it will pass linefeeds through unchanged.

The Thousand Bytes

Now that you have made the most important changes, are you ready to go for the tedium of a thousand bytes? Spellbinder marks all text that you want enhanced by setting the 8th bit of each character. WordStar wants to do its own thing in this regard, setting only the last character of each word to 8 bit ASCII. You need to filter these high bits out of the way.

Move down to line 1800 (use the command `d1800`↵). You will see the beginning of the 8-bit ASCII characters. The first 32 of these (`80` to `9F`) are not needed. You will not have to change these 32 lines. Leave them alone so any such characters will be filtered out.

Beginning at line `1A00`, character `A0`, the 8-bit space character, you want to change all 8-bit characters to 7-bit characters. Currently, they are set to be filtered out and eliminated. In this line, the sequence looks like:

Many editors are accustomed to working with WordStar text. I had to find a way to convert my Spellbinder files in order to sell articles.

```
A0 FF 00 etc. . .
```

You will need to patch this and all lines through the end of the table (1FF0) so they are converted. Patch line `1A00` to read:

```
A0 7F 01 00 01 00 20 etc. . .
```

All subsequent lines follow exactly this format. The only differences are that you leave the first byte alone to reflect the 8-bit input character and change the 7th byte to reflect the 7-bit character to be installed. This is a lot of redundant typing, but it will be worth the effort.

After you complete all the changes, toggle the printer on again with Control-`P` and proofread your work. Go back to the beginning of the table with command `d1000`↵ and work completely through with `d` commands. Look for consistency and accuracy. Correct any errors.

Whatever you do, do not shut off the computer yet! You don't want to lose all this work!

Press Control-`C` (`^C`) to exit DDT and warm boot your system. Now, save this altered program to disk so you can try it out. At the `A>` (A prompt), enter the following command:

```
a>SAVE 32 B:SB/WS.COM↵
```

CP/M then writes a complete copy of SB/WS.COM on your B drive as a separate new file, leaving your original

CONVERT.COM unchanged.

Copy this new file to a bootable disk (one that has the operating system installed via SYSGEN). Next, copy a Spellbinder text file to your scratch disk. You are ready to test your work.

The Actual Conversion

Use almost exactly the same approach as before to convert your Spellbinder files to Wordstar format. The command line is even simpler as you do not have to include an option number. SB/WS.COM assumes that it is to use the translate table you have just altered when you do not specify an option.

Enter the command line:

```
A>SB/WS B:TEST.TXT B:CHANGED.TXT ↵
```

TEST.TXT is your scratch Spellbinder file to be converted, and CHANGED.TXT is the file created by CONVERT. As with the conversion of WordStar files, the original file is unchanged. The length of the file to be converted is irrelevant as long as there is room on your disk to accommodate it.

The result of this conversion is a single spaced file (CHANGED.TXT) that is easily handled by either WordStar or NewWord. You could make the output double-spaced by adding one more "soft" carriage return to the replacement sequences for both "hard" and "soft" carriage returns.

Now, enter WordStar (or NewWord) and call up the transformed file for editing. You should see nice clean copy, though some lines may extend past the right margin. You may also see a J in the right margin at the end of a paragraph where you had expected to see the < symbol. This simply refers to the linefeed character you placed at the end of the paragraph and will not hurt your ability to edit or reformat the text.

If you did not alter the translate filter for the vertical bar (¦) character, then use WordStar's global search and replace function to find and eliminate them.

Set your margins as desired and reformat your text with Control-QB. You should see nice clean results. Whether single or double-spaced, it should be quite easy to handle now.

Proofread the reformatted text and see how it looks. If anything looks too strange, you may wish to do a DDT examination of it. That will determine any other changes you want to make in the character translation routine of CONVERT.COM.

This process is not perfect, but does produce text that you can work with. You must read your finished text carefully on the screen before printing just in case any garbage slips in.

If you own a Morrow . . . then you need MOR

Tired of searching newsstands and bookstores for *something* that relates to your Morrow?

Here it is! The **MORROW OWNERS' REVIEW** is a magazine published exclusively for you—the owner of a Morrow computer. Beginners as well as technical wizards can find high-quality how-to articles, reviews of books and software, tips on new products, tutorials—information you won't find elsewhere, written by Morrow owners for Morrow owners. Our columnists will answer those questions you're too embarrassed to ask at your local users group (if you have one). And our display advertisers tell you only about products for your Morrow computer.

$18 a year is all it takes to get **MOR** delivered to your front door every other month. That's less than the cost of a box of cheap floppies!

Back issues are available for $3.00 each, including postage. (Five issues of Vol. 1 published in 1984; bimonthly in 1985, starting with Vol. 2 in February.)

Morrow Owners Review
Morrow Owners
Morrow Owners Review

Name ____________________

Address ____________________

City ____________ State _____ Zip ____________

Send to: **Morrow Owners' Review**
Box 5487, Berkeley, CA 94705, *Attn: Subscriptions*

☐ One year $18.00 ☐ Two years $32.00

☐ Check enclosed ☐ MasterCard ☐ VISA

Card # ____________________

Expiration Date ____________________

Signature ____________________

SPECIAL MAILING COSTS: For First Class, add $10/yr. for US, Canada & Mexico. For all other countries, add $10/yr., for surface mail, add $28/yr. for Airmail.
TUG885

Circle 14 on your reader service card.

"...the very best collection of utility software I've seen...The Kaypro is advertised as "The Compleat Computer"-but this is the bundle of software that makes that true!"

Dave Gerrold, Profiles Magazine

FREE SOFTWARE HANDBOOK ONLY $17.95
(Handbook plus software disks $62.95. Disks only $54.95.)

Features the top programs in public domain
- What they are
- When they're useful
- How to acquire them
- How they work

*If ordering disks please specify machine and disk format.

Also from PeopleTalk:

Wordstar and Friends for Kaypro 2 & 4	**$19.95**
Perfect Manual for the Kaypro 2,	**$17.95**
Perfect Manual for the Kaypro 4,	**$17.95**

Supercharge your Kaypro with Smartkey! ™
Only $44.95 to customize your computer. Program your own keyboard to turn the most-used commands into ONE KEYSTROKE.

PERFECT WRITER ON THE KAYPRO ™
Easy-to-read tutorial for Perfect Writer users. Unleash the power of Writer with this handy reference book as only PeopleTalk could produce it!
- Exceptional type-this-and-you-get that reference section lets you look up a command quickly and easily
- Focuses on all Kaypro models

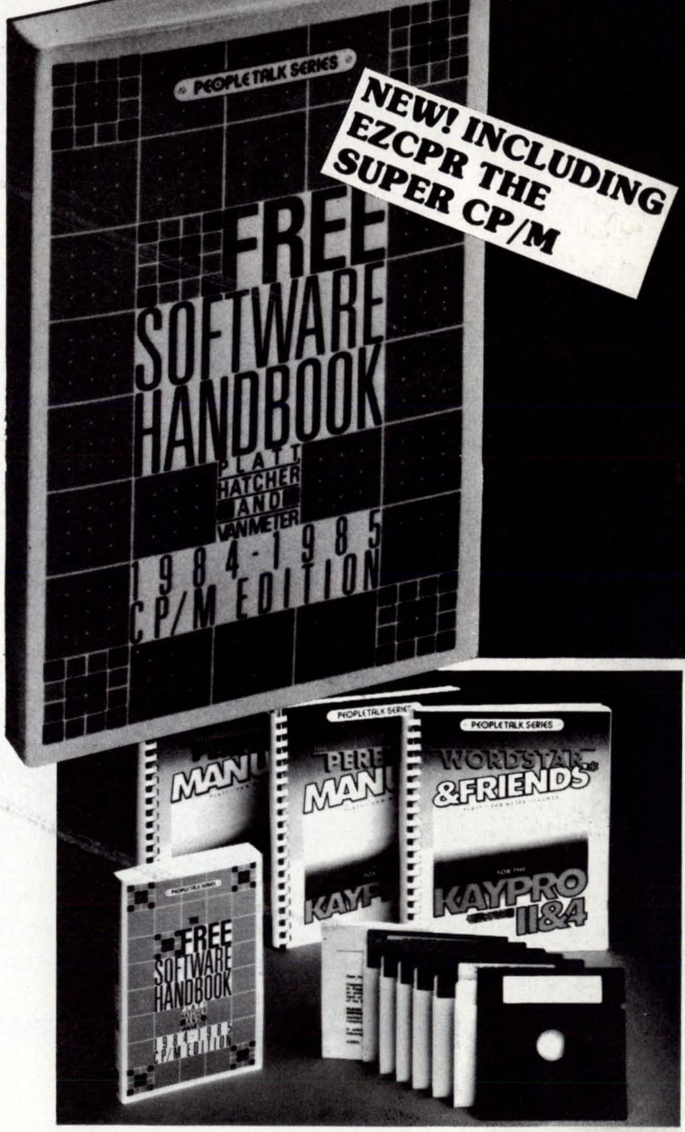
All this for only **$17.95**

DISKETTES! Special 25 disk prepacks
Single-Sided: **$1.25** each **$31.25** Box
Double-Sided: **$1.45** each **$36.25** Box
Includes warranty, envelopes & labels

CHECKS AND BALANCES

"The sky opened with a crack of thunder ... My checkbook had balanced ... It hadn't balanced in 17 years. If anyone had told me that I would be balancing my checkbook and enjoying it, I'd have suggested he was a candidate for a rubber room!" Dave Gerrold Profiles

The incredibly easy-to-use accounting package for personal and business use.
Super-low price **$54.95**
MONEY-BACK GUARANTEE



See your dealer or order direct:

PeopleTalk Associates Inc.
P.O. Box 863652- C
Plano, TX 75086
1-800-PT BOOKS

MasterCard VISA AMERICAN EXPRESS

Please include product price in U.S. Dollars + $3 shipping and handling ($10 air mail outside U.S.) Texas residents add 6% tax.

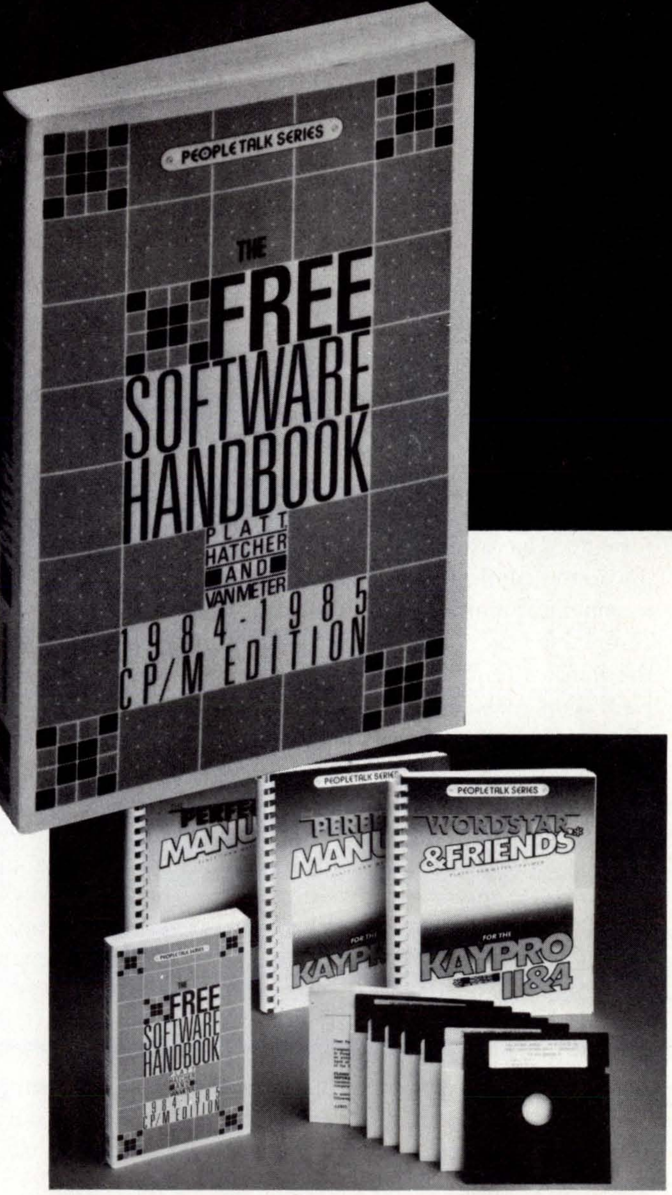
Circle 17 on your reader service card.

"...the very best collection of utility software I've seen...The Kaypro is advertised as "The Compleat Computer"—but this is the bundle of software that makes that true!"

Dave Gerrold, Profiles Magazine

"After using your "Help" books, I am hesitant to purchase any software without checking to see if you have published a book on it."

Houston, Tx.



PEOPLETALK SERIES
THE FREE SOFTWARE HANDBOOK
PLATT HATCHER AND VAN METER
1984-1985 CP/M EDITION
PERFECT MANUAL
PERFECT MANUAL FOR THE KAYPRO
WORDSTAR & FRIENDS FOR THE KAYPRO II & 4

NEW! PERFECT WRITER SECOND EDITION ON THE KAPRO. JUST $17.95

Free Software Handbook only $17.95!

(Handbook plus software disks $57.95. Disks only $49.95.)

Features the top 70 programs in public domain —

- What they are
- When they're useful
- How to acquire them
- How they work

*If ordering disks please specify machine and disk format.

Also from PeopleTalk:

Wordstar and Friends for the Kaypro 2 & 4,	$21.95
Perfect Manual for the Kaypro 2,	$17.95
Perfect Manual for the Kaypro 4,	$17.95

Supercharge your Kaypro with Smartkey!
Only $74.95 to customize your computer. Program your own keyboard to turn your most-used commands into ONE KEYSTROKE.

Subscribe to the PeopleTalk Quarterly.
Tips, tricks, short-cuts, brainstorms. Plus a Helpline Column with answers. $20.00 per year. (4 issues)

See your dealer or order direct:

PeopleTalk Associates Inc.
P. O. Box 863652-B
Plano, TX 75086
214/423-4634

MasterCard VISA AMERICAN EXPRESS

Please include product price in U.S. Dollars + $3 shipping and handling ($10 air mail outside U.S.) Texas residents add 6% tax.

Make WordStar a Superstar With Prokey

A set of Prokey assignments turn WordStar into a super performer.

by Gary Nored
© 1984

I must confess to having an affair with WordStar®. Like others before me, I have done my share of cursing and cajoling WordStar's nonmnemonic command structure; I have complained over missing commands in the indexes of WordStar's manuals; I have long wished for windows — but after trying and using over half a dozen other word processing programs, I still keep coming back to WordStar. Clearly, the benefits of WordStar outweigh its shortcomings, at least in my mind.

WordStar was originally written for a 64K CP/M environment with a minimal keyboard. When moving WordStar to the IBM PC, MicroPro seems to have chosen to modify WordStar as little as possible. The result is that various levels of cursor movement operations must be accessed in inconsistent ways, all complex deletions must be accessed through WordStar's cumbersome "diamond-pattern quick-commands," and the power of the IBM PC keyboard remains largely untapped.

Almost all of WordStar's shortcomings can be remedied in one way or another. There are programs that give WordStar indexing capability, and programs that enable WordStar to insert footnotes at the bottom of pages. There are programs to give WordStar windows, and there are programs that teach WordStar to spell and check your style, support proportional-spacing printers and a wide variety of other capabilities. This article is about a software package that gives macro capability to WordStar. It is called Prokey® and is published by RoseSoft, Inc.

Prokey enables the user to create "macro" keys — that is, to assign new values to various keys on the keyboard. These new values may be anything you wish, from simple text (such as your return address) to elaborate strings of commands to be interpreted by the host software. Once installed, Prokey stays out of the way and does not affect the operation of WordStar in any way.

Prokey will not enable you to do anything which cannot be done in WordStar already, but it will allow you to perform complex operations with a minimum number of keystrokes.

Prokey comes with a WordStar "starter set" supplied on disk. It's a good starter, but the author makes certain assumptions about the manner in which WordStar will be used which, though valid, are not consistent with most of the guidelines which are currently followed by publishers and schools. The macro set listed in this article assumes that you will be using WordStar to produce documents which adhere to MLA standards (and, by the way, to the standards proposed in the *Chicago Style Guide*, *Words Into Print*, and other nationally followed style guides for writers). In addition, it features better and more consistent cursor and deletion controls while leaving as many function keys as possible available for redefinition.

The IBM-PC keyboard permits "shifting" any key through three levels, effectively giving you three keys for every key on the board. They are the Shift level (using the Shift key), the Control-Shifted level (using the Control and Shift keys), and the Alt-Shifted level (using the Alt and Shift keys). With Prokey 3.0 all three levels of any key may be redefined. The definition may contain single or multiple keystrokes.

The "Superstar" macro set in this article uses each cursor key in its normal unshifted mode for single character operations, the Control-Shifted mode for word operations and the Alt-Shifted mode for larger operations.

This hierarchy is consistent for cursor moves and for deletions. Since the up and down keys move the cursor up or down starting from the *line* level, the shifted forms move up the scale to sentences and paragraphs. The left and right keys start at the *character* level, so the shifted forms move upwards in scale to words and then to lines. The standard WordStar Home and End keys work as implemented. Control-Shifted, they move to the beginning and end of the file, respectively.

The Backspace key (called Bks from here on) has been redefined to operate as expected. It backspaces and deletes the character directly to the left. Control-Shifted, the Bks key deletes one word to the left; Alt-Shifted, it deletes to the beginning of the current line.

The Delete key (called Del from here on) deletes a single character to the right in its unshifted mode: the Control-Shifted Del key deletes the next word forward of the cursor and the Alt-Shifted Del key deletes to the end of the line.

The Shift-PrtSc key functions normally; however, Control-PrtScrn has been changed to delete to the end of a paragraph and Alt-PrtSc deletes to the end of the file.

Prokey comes with a special set of block marking commands that have been incorporated directly into my "Superstar Set." These commands let you mark words, sentences, lines, or paragraphs with the single keystrokes Alt-`W`, Alt-`S`, Alt-`L`, and Alt-`P`, respectively.

Alt-shifting the native WordStar block commands performs the native function with the addition that after performing the copy, move, or delete operations, the "Superstar Set" re-

SUPERSTAR SET

Note: Angle brackets ("⟨" and "⟩") are used to enclose abbreviated key names. For example, `⟨alta⟩` and `⟨altb⟩` are Alt-#A and Alt-`B` respectively, and `⟨ctrlq⟩` means Control-`Q`. The `⟨begdef⟩` and `⟨enddef⟩` mark the beginning and ending of definitions, and ⟨enter⟩ stands for the Return key (usually shown as ↵) used in a Prokey definition. Other markers are related to Prokey.

```
*ALT-SHIFTED LETTERS*
*
⟨begdef⟩⟨alta⟩⟨ctrlq⟩A⟨vfld⟩...⟨vfld⟩⟨enter⟩
⟨vfld⟩...⟨vfld⟩⟨enter⟩
⟨vfld⟩..⟨vfld⟩⟨enddef⟩
*
⟨begdef⟩⟨altb⟩⟨ctrlq⟩⟨ctrlq⟩⟨ctrlb⟩⟨enddef⟩
*
⟨begdef⟩⟨altc⟩⟨ctrlk⟩1⟨ctrlk⟩C⟨ctrlo⟩H⟨ctrlb⟩⟨ctrlq⟩V⟨ctrlb⟩⟨ctrlq⟩1
⟨ctrlk⟩1⟨ctrlk⟩H⟨ctrlo⟩H⟨enddef⟩
*
⟨begdef⟩⟨altd⟩D⟨begdef⟩⟨altf1⟩⟨vfld⟩...⟨vfld⟩⟨enddef⟩⟨enter⟩
⟨enddef⟩
*
⟨begdef⟩⟨altf⟩⟨ctrlq⟩F⟨vfld⟩...⟨vfld⟩⟨enddef⟩
*
⟨begdef⟩⟨alti⟩WS⟨enter⟩
LB:⟨enter⟩
⟨enddef⟩
*
⟨begdef⟩⟨altl⟩⟨ctrlq⟩D⟨rgt⟩⟨ctrlk⟩K⟨lft⟩⟨ctrlq⟩S⟨ctrlk⟩B⟨enddef⟩
*
⟨begdef⟩⟨altn⟩N⟨begdef⟩⟨altf1⟩⟨enddef⟩⟨enter⟩
⟨enddef⟩
*
⟨begdef⟩⟨altp⟩⟨ctrlq⟩F⟨ctrln⟩⟨ctrln⟩     ⟨enter⟩
B⟨enter⟩
⟨rgt⟩⟨rgt⟩⟨ctrlk⟩B⟨ctrlq⟩F⟨ctrln⟩⟨ctrln⟩     ⟨esc⟩
⟨lft⟩⟨lft⟩⟨lft⟩⟨lft⟩⟨lft⟩⟨ctrlk⟩K⟨enddef⟩
*
⟨begdef⟩⟨altq⟩⟨enter⟩
⟨enter⟩
⟨ctrlo⟩L11⟨enter⟩
⟨ctrlo⟩R55⟨enter⟩
⟨ctrlo⟩S1⟨enter⟩
⟨enddef⟩
*
⟨begdef⟩⟨alts⟩⟨ctrlq⟩F ⟨enter⟩
B⟨esc⟩⟨rgt⟩⟨rgt⟩⟨ctrlk⟩B⟨ctrlq⟩F  ⟨esc⟩⟨ctrlk⟩K⟨enddef⟩
*
⟨begdef⟩⟨altt⟩P⟨altf1⟩⟨esc⟩⟨enddef⟩
*
⟨begdef⟩⟨altu⟩⟨ctrlq⟩P⟨enddef⟩
*
⟨begdef⟩⟨altv⟩⟨ctrlk⟩2⟨ctrlq⟩B⟨ctrlk⟩1⟨ctrlq⟩2⟨ctrlk⟩V⟨ctrlo⟩H
⟨ctrlb⟩⟨ctrlq⟩1⟨ctrlb⟩⟨ctrlq⟩1⟨ctrlk⟩1⟨ctrlq⟩2⟨ctrlk⟩2⟨ctrlk⟩H
⟨ctrlo⟩H⟨enddef⟩
*
⟨begdef⟩⟨altw⟩⟨ctrlf⟩⟨ctrlk⟩k⟨ctrla⟩⟨ctrlk⟩B⟨enddef⟩
*
⟨begdef⟩⟨altx⟩LA:⟨enter⟩
X⟨cmd⟩d00:00:00.8⟨enter⟩
```

Continued ➤

Continued from page 41

```
prokey/c<enter>
<enddef>
*
<begdef><alty><ctrlq>B<ctrlk>Y<ctrlo>H<ctrlb><ctrlo>H<enddef>
*
<begdef><altz><enter>
<enter>
<ctrlo>L1<enter>
<ctrlo>R60<enter>
<ctrlo>S2<enddef>
*
*CURSOR CONTROLS. INSERTIONS. DELETIONS*
*
<begdef><bks>'<del><enddef>
*
<begdef><altbks><ctrlq>'<del><enddef>
*
<begdef><ctrlbks><ctrla><ctrlt><enddef>
*
<begdef><althom><ctrlq>R<enddef>
*
<begdef><altup><ctrlq>F<ctrln><ctrln>     <enter>
B<enter>
<dn><dn><rgt><rgt><rgt><rgt><rgt><enddef>
*
<begdef><altlft><ctrlq>S<enddef>
*
<begdef><altrgt><ctrlq>D<enddef>
*
<begdef><altdn><ctrlq>F  <ctrln><ctrln><esc><lft><lft><enddef>
*
<begdef><ctrlhom><ctrlq>F<ctrln><ctrln>     <enter>
B<enter>
<rgt><rgt><enddef>
*
<begdef><ctrlup><ctrlq>F  <enter>
B<enter>
<rgt><rgt><enddef>
*
<begdef><ctrllft><ctrla><enddef>
*
<begdef><ctrlrgt><ctrlf><enddef>
*
<begdef><ctrlend><ctrlq>C<enddef>
*
<begdef><ctrldn><ctrlq>F  <esc><enddef>
*
<begdef><del><rgt><ctrlg><enddef>
*
<begdef><altdel><ctrlq>Y<enddef>
*
<begdef><ctrldel><ctrlt><enddef>
*
<begdef><ctrlprt><ctrlk>B<ctrlq>F<ctrln><ctrln>     <esc>
<ctrlq>S<ctrlk>K<ctrlk>Y
<enddef>
*
<begdef><altprt><ctrlk>B<ctrlq>C<ctrlk>K<ctrlk>Y<enddef>
*
```

forms the paragraph and hides any remaining blocks. This provides an easy way to delete sentences and paragraphs and is easy to learn and remember as well. The marked blocks are standard WordStar blocks, so they may also be saved to disk. If you have trouble remembering any of the new commands, no matter. The original WordStar commands remain unaltered.

The "Superstar Set" offers reduced keystrokes for a number of other WordStar operations. The up-shifting principle is observed in these functions as well. For instance, WordStar's command for reforming a paragraph is Control-`B`. To reform repeatedly, use the command Control-`QQB`. The "Superstar" command to do this is Alt-`B`.

WordStar opens a document file when you type `D` from the opening menu. Alt-`D` opens a document file and records its name to use with the Alt-F1 key. Alt-`N` works similarly for non-document files.

To leave WordStar you type an `X` from the main menu. Alt-`X` resets the logged disk drive to drive A: and clears Prokey's memory so that the redefined keys do not interfere with DOS-level operations or other software commands. If you forget and use WordStar's plain `X` command, you will see strange things on your screen when you press the Bks key. No matter. If you need it, Control-Bks works in the normal fashion. You can finish your immediate task and clear Prokey's memory by typing `prokey/c`↵ (↵ stands for the Return key).

The two search functions Control-`QF` and Control-`QA` have been replaced with Alt-`F` and Alt-`A` (find, and search/replace), respectively. The savings here is minimal — the difference is merely that Alt-`F` is easier to type on the IBM keyboard than Control-`QF`.

The command Alt-I starts WordStar, sets the help level and logs the system to drive B:. It will need adjusting to your own needs. I use a batch file to load and install Prokey and to install WordStar. The Alt-I command installs WordStar when Prokey is already installed — it saves quite a bit of disk access time.

BYTE
InfoWorld
PC TECH JOURNAL
Dr. Dobb's Journal
SOFTWARE TOOLS FOR ADVANCED PROGRAMMERS
Telecommunications
Christensen Protocols in C
2400 Baud and Beyond
New Column: Unix Exchange
Queues, Bitmaps, Laserjets and Paranoia

Dr. Dobb's Stands Apart

Take a good, hard look at the crowded computer magazine market. If you're a serious microcomputerist, one magazine stands apart. ***Dr. Dobb's Journal.***

Dr. Dobb's is not for everyone. It is written by and for expert programmers, and it's the oldest and most technically sophisticated microcomputer publication available. Since 1976, ***Dr. Dobb's Journal*** has been the unchallenged leading source of software tools for advanced programmers.

With the industry moving forward faster than ever, you need to stay a step ahead. ***Dr. Dobb's*** sets the pace with:

- regular columns on C, Unix, CP/M and 16-bit software;
- algorithms and problem solving;
- lively discussions of fundamental software issues;
- inside information on commercial languages and operating systems;
- tips on advanced programming topics.

The information and valuable code contained in ***Dr. Dobb's*** makes each issue indispensable for serious computing professionals and enthusiasts. Don't miss a single issue of this valuable resource. Subscribe today. If you aren't fully satisfied, cancel your subscription and keep the first issue as a free sample.

To start your subscription,
fill out this coupon and return it to:

Dr. Dobb's Journal
P.O. Box 27809, San Diego, CA 92128

Yes! Please enter my subscription for 12 issues of:
Dr. Dobb's Journal for $25.

If I am not fully satisfied I will write "cancel" on my subscription invoice and keep the first issue as a free sample.

*Name*________________

*Address*________________

*City*________________

*State*________ *Zip*________

☐ *Bill me later* ☐ *I've enclosed $25* *Charge my* ☐ *VISA* ☐ *M/C*

*Card No.*________________

*Expiration*________________

*Signature*________________

4007

Offer good in U.S. only

SOFTWARE TOOLS FOR ADVANCED PROGRAMMERS
Dr. Dobb's Journal

Circle number 9 on the reader service card.

Alt-F1 always contains the name of the last file you were working with (so block activity doesn't confuse WordStar). I assigned the "save file and continue edit" function to Alt-F2. All other shifted, Alt-shifted and Control-shifted function keys are available to you for making custom Prokey definitions.

One command which could not preserve the native feel of WordStar commands was the `P` command (for print) from the opening menu. `P` will still work as always, though you have to press Alt-F1 or type the file name you wish. My "Superstar" expanded command is Alt-`T` which supplies the name of the last file edited and escapes to print mode directly. To use Alt-`T` you need to be careful when entering the filename under Alt-`D` or Alt-`N`. If you make a mistake, do not use the Bks key — use Control-`H` instead; otherwise Control characters will find their way into the filename and WordStar will not be able to locate the file to print.

I borrowed two commands directly from the macros supplied by Prokey: they are the Alt-`q` and Alt-`z` commands. These commands assume that you are preparing double-spaced text and wish to include a single-spaced quotation. I've changed the margins to reflect conformance to MLA standards: if you are using another line-length, you will have to alter the macros to meet your own needs. To use, type Alt-`q` at the end of the sentence immediately preceding the quotation. When you reach the end of the quote, simply type Alt-`z` and standard 60-character, double-spaced lines will return.

Prokey's WordStar Starter Set also comes with an envelope addressing macro; however, it assumes that you have a letter-quality printer which can be fed an envelope at a time. I use a dot-matrix printer and continuous paper, and I suspect that different user's approaches to this problem are so varied that such a macro is not worth much. For what it's worth, when I first write a letter, I define Alt-`8` (date) for the date, Alt-`0` for the addressee and I have my own address permanently defined on one of the remaining keys.

When I type Alt-`E` Prokey starts a new page, sets the offset, feeds 14 lines,

SUPERSTAR MACROS

CURSOR CONTROLS

The ^ symbol stands for the Control key.

‹lft› ‹rgt› ‹up› ‹dn›	left, right, up, or down one character
‹^lft› or ‹^rgt›	left or right one word
‹alt lft› or ‹alt rgt›	left or right to end of line
‹^up› or ‹^dn›	up or down one sentence
‹alt up› or ‹alt dwn›	beginning or end of paragraph
‹home› or ‹end›	top or bottom of screen
‹^home› or ‹^end›	top or bottom of file
‹altu›	Undo last cursor command

SPECIAL BLOCK COMMANDS

‹altw›mark current Word	‹altc›Copy, recompose, hide
‹altl›mark current Line	‹altv›moVe, recompose, hide
‹alts›mark current Sentence	‹alty›delete, recompose
‹altp›mark current Paragraph	

DELETIONS

‹bks›	delete one character left
‹^bks›	delete one word left
‹altbks›	delete to beginning of line
‹del›	delete next character
‹^del›	delete next word
‹altdel›	delete to end of line
‹^prt›	delete to end of paragraph
‹altprt›	delete to end of file

OPERATIONS

‹altb› compose continuously
‹altd› open Document file; record file name under ‹altF1›
‹altf› Find (use Returns to execute)
‹alti› Install WordStar if Prokey already installed
‹altn› open Non-document file; record file name under ‹altF1›
‹alta› search And Replace (use Returns to execute)
‹altt› Type (prinT) file currently named under ‹altF1›
‹altx› eXit WordStar; clear Prokey; set drive to A:
‹altF1› File name of current or last file
‹altF2› File save and return to edit

FORMAT MACROS

‹altq›

Starts Quotes in single-spaced, indented format. Type ‹altq› at end of sentence preceeding quote.

‹altz›

End quotation format started at ‹altq› above. Type ‹altz› at end of quote.

ALT KEYS AVAILABLE FOR REDEFINITION:

e, g, h, j, k, m, o, r, 1-0:

types out my return address, feeds 9 lines, changes the page offset again, and prints the outgoing address. I then fold this page and insert it so the contents can be seen through a double-window envelope—thus saving me the trouble of loading a separate envelope into my bottom-feeding printer.

My "Superstar Set" uses the Alt-shifted form of nearly all the letters of the alphabet — in fact the only ones left (not counting the envelope routine) are Alt-`e`, Alt-`g`, Alt-`h`, Alt-`j`, Alt-`k`, Alt-`m`, Alt-`r` and Alt-shifted keys `1` through `10`.

The Control and Alt-shifted function keys are also available for redefinition with the exception of Alt-F1 and F2. Prokey can redefine the Control-shifted keys, but you should be careful not to redefine any of WordStar's Control keys or the Control-shifted keys Control-`h`, Control-`i`, Control-`j`, Control-`m`, Control-`z`, or Control-`[`, because this interferes either with WordStar or DOS and weird and unpredictable things will result.

Two minor notes worth mentioning. The "Superstar Set" puts the "‹" and "›" keys on the "¦" and "\" key positions respectively, and puts commas and periods on both the unshifted and shifted positions. This greatly simplifies typing phrases such as "P.O. Box." The sentence marking routine searches for a double space to find sentence beginnings. If you use only a single space (I do) you will need to substitute a period-space for the space-space definition for the Control-up, Control-down and Alt-`s` definitions. This will not allow WordStar to find any sentence when the sentence before ended in anything but a period. You should cultivate a habit of supplying the double spaces on all sentences, including those at the end of paragraphs: otherwise the paragraph marking and seeking commands will not work.

In the event that you have any difficulty with dropped characters, switch Prokey to the slow mode. Invoke Prokey either from WordStar or DOS, appending a `/f-` at the end of the command. This will cause Prokey to supply characters to the processor at a slower rate and the trouble with dropped characters usually disappears.

◻

FOR PERSONAL OR BUSINESS, IT'S. . .

Checks & Balances

THE BEST SINGLE-ENTRY ALTERNATIVE TO THOSE DOUBLE-ENTRY SYSTEMS!

Release 3.6 now available!

- ✓ Expanded 180-page manual with step by step instructions and tutorial on advanced features.
- ✓ Combined reports for multiple checkbooks.
- ✓ Detailed balance sheet and budget reports.
- ✓ Check writer handles nearly any check. Configuration for five checks from Deluxe Computer Forms included.
- ✓ Color available for PCs and the clones.
- ✓ Print labels, cards and address envelopes from the Rolodex.
- ✓ Keep logs of mileage and travel for tax records.
- ✓ FAST!!! Totally full screen operation—correct any entry just by typing over like your word processor. Compiled in assembler for speed. Not a Basic program like Home Accountant.
- ✓ Simple but powerful ENGLISH commands.
- ✓ GUARANTEED TO WORK ON YOUR SYSTEM OR YOUR MONEY BACK!
- ✓ Keeps a full year at a time—calendar or fiscal!
- ✓ Enter over 45 characters of memo/notes with each transaction. Dollars & Sense makes little sense with no memo!
- ✓ CP/M users—We still support you as well as PC-DOS and plain, vanilla MS-DOS (even ANSI standard, Apple CP/M and HP-125 and 150)!

ONLY $74.95 • 30-DAY GUARANTEE
NOT COPY PROTECTED

SYSTEM REQUIREMENTS: CP/M—60K RAM, 80 × 24 screen. MS-DOS/PC-DOS—192K RAM. All require two floppies, RAM disk or hard disk. Specify SSDD or DSDD and computer type when ordering. $3 P&H per order, COD $4 extra. Outside USA, $10 P&H per order, no COD. Visa or MC. Manual only, $10 + P&H, refundable on purchase.

CDE SOFTWARE
2463 McCready Avenue
Los Angeles, CA 90039
(213) 661-2031

C&B IS AVAILABLE FROM THESE FINE PEOPLE

Valcon
1260 Westwood
Redwood City, CA 94061
(415) 369-2034
All formats—Area representative

J.A.C. Computer Services
806 West 209th Street
Torrance, CA 90502
(213) 328-4759
All formats—Area representative

Mycroft Distributors
P.O. Box 6045
Tallahassee, FL 32314
(904) 385-1141
All formats—Write for catalogue

Micrograph
144 Lakeside Drive
Peachtree, GA 30269
(404) 487-4617
All formats—Area representative

Collin County MLS
1021 E. 15th
Plano, TX 75074
(214) 423-6211
All formats—Area representative

Computer Network
888 East 3300 South
Salt Lake City, UT 84106
(801) 467-6000
Kaypro, MS-DOS

Advent Products, Inc.
3154-F East La Palma Avenue
Anaheim, CA 92806
(800) 821-8778 National
(800) 521-7182 California
All formats—Write for catalogue

REGIONAL DISTRIBUTORS

Advent Products, Inc.
3154-F East La Palma Avenue
Anaheim, CA 92806
(800) 821-8778 National
(800) 521-7182 California

Mycroft Distributors
P.O. Box 6045
Tallahassee, FL 32314
(904) 385-1141

Circle number 5 on the reader service card.

dBASE REPORT/Miriam Liskin

Losing Data?

If you have a file with missing data, or problems with closing two files properly, use these techniques to recover the data.

Judging by the number of dBASE questions asked by *Computer Currents* readers and by my consulting clients, there are a lot of frustrated dBASE II users out there. Beginning with this issue of *User's Guide*, I'll present a series of dBASE II reports, with tips, techniques and explanations of confusing areas, as well as a bug report and examples of ways to get around the bugs.

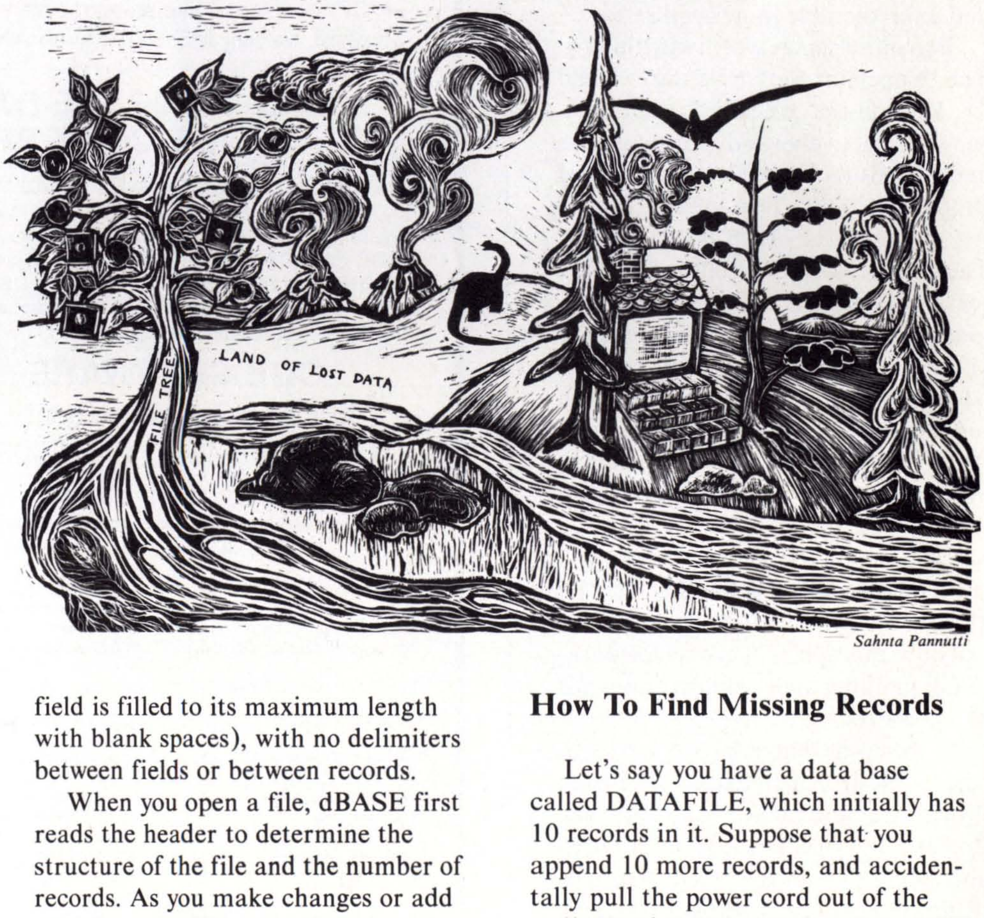
We'll begin with an explanation of one of the most common ways that dBASE users lose data. To understand the explanation, you need to know a little about how dBASE data base files are stored.

At the beginning of each file is a 520-byte *header*, containing the structure of the file (field names, types, and lengths), the date of last update, and the record count.

Following this header are the data records, in ordinary ASCII format. The data consists of fixed length records with fixed length fields (each field is filled to its maximum length with blank spaces), with no delimiters between fields or between records.

When you open a file, dBASE first reads the header to determine the structure of the file and the number of records. As you make changes or add records to the file, not all of your entries are written immediately to the disk. Depending on the record length, one or more records may be retained temporarily in a memory buffer, and if the system crashes in the middle of data entry, you will obviously lose the few records that have not yet been saved on disk. However, those few lost records are the least of your problems.

The real difficulty is that the very last thing that dBASE writes to the disk when you close a file is the record count. After a system crash, all or most of your data records may be on the disk, but the record count will reflect the number of records in the file the last time it was closed properly.



Sahnta Pannutti

How To Find Missing Records

Let's say you have a data base called DATAFILE, which initially has 10 records in it. Suppose that you append 10 more records, and accidentally pull the power cord out of the wall. Here's what your data base will look like: Of your 10 new entries, let's say that 8 ended up on the disk, so your data file really has 18 records in

Copyright © 1985 Miriam Liskin

it. However, the record count still says you have 10 records. If you try to access any of your new entries, dBASE will give you the error message `RECORD OUT OF RANGE` — meaning that you have asked for a record which is not included in the range of records dBASE "knows" are in the file.

If you have dBASE II version 2.4, you can restore the integrity of your file simply by using the PACK command, which ignores the header's record count and reads through to the physical end of the file.

If you are using version 2.3, the quickest and surest way to recover is to copy your data base and indexes from your most recent backup disk and re-enter any data which was entered after you made the backup.

If you have no backup disk (shame on you! Go read issue #1 of *User's Guide* for help making backups), or if you have added a great deal of data or made extensive changes which would be hard to reproduce, there are a few tricks you can try which may recover most of your lost data. Remember to make a backup copy of your damaged file before you begin experimenting.

Occasionally, the COPY command will copy all of the data, so the first thing to try is:

```
.USE DATAFILE↵
.COPY TO TEMP↵
```

If this fails (it usually will), create another file with the same structure as the damaged data base, and try appending the original file into this new empty file:

```
.USE DATAFILE↵
.COPY STRUCTURE TO TEMP↵
.USE TEMP↵
.APPEND FROM DATAFILE↵
```

This will often successfully read in all of the records, and all you'll have to do is to close the file in use, erase the original file and rename TEMP to take its place:

```
.USE↵
.DELETE FILE DATAFILE↵
.RENAME TEMP TO DATAFILE↵
```

If this method does not work, use the COPY command to copy as many records as you can to a temporary file:

```
.COPY TO TEMP1↵
```

Then, go to the last record dBASE recognizes in the file (in our example, record 10), and try a `SKIP` command. You'll probably get the `RECORD OUT OF RANGE` error, but dBASE may nevertheless position its file pointer at record 11; you can verify this with a `DISPLAY` command. If record 11 is in fact displayed, use the COPY command to copy the rest of the data to another file:

```
.COPY NEXT 10 TO TEMP2↵
```

If SKIP leaves you positioned at record 10, try `SKIP 2` or `SKIP 3`. You can then append TEMP2 to TEMP1, erase the damaged file, and rename TEMP1 to DATAFILE.

If all else fails, and your data base is small enough to be loaded into memory with DDT (on CP/M systems) or DEBUG (on IBM and compatible systems), you can change the record count (the second and third bytes of the data base header) to reflect the correct number of records in the file (or a number you know is larger).

Needless to say, you should never reboot or turn off your computer while you have dBASE files open. One way of minimizing the damage that a power failure could cause during data entry is to frequently close your file (`USE↵` by itself closes the file in use) and then immediately reopen it. If you do this every half hour or so, you can never lose more than the number of records you can input in 30 minutes.

Closing Two Files Properly

So far the emphasis has been on the importance of closing a file properly in order to make sure that any data buffered in memory — especially the all-important record count — is written to the disk. If you have two files open, you must be especially careful how you close them, because the USE command closes only the file in the area you are working in: the primary file or the secondary file, but not both.

Some particularly difficult-to-trace `RECORD OUT OF RANGE` errors can result from opening a file in one area while the file is still open in the other. For example, if you open a file as the primary data base, add records, and then open it as the secondary data base, the record count read in when the file is opened in the secondary area will be wrong.

You can minimize damage from a power failure by frequently closing your file and then immediately reopening it. If you do this every half hour, you can never lose more than the number of records you can enter in 30 minutes.

When you issue a `QUIT` command to exit from dBASE, both the primary and secondary files will be closed automatically. The `CLEAR` command will not only close both data bases, but also release all memory variables. If you need to close your primary and secondary files without losing memory variables, the proper sequence of commands is:

```
.SELECT SECONDARY↵
.USE↵
.SELECT PRIMARY↵
.USE↵
```

The next installment will cover some of the destructive bugs in the dBASE II program editor.

A version of this "dBASE Report" piece first appeared in the *Bay Area Computer Currents* in the "dBASE Corner" column.

CP/M-80 •
CP/M-86 •
PC-DOS •
MS-DOS •

ESP: Surviving BASIC Without Program Listings

Being a programmer and getting along without paper listings, or how to get your BASIC program to remember itself.

by Roy J. Lipscomb

Rare is the person who can remember all the details of a program without hard copy; and rare is the computer system with sufficient redundant displays so that multiple independent pages of text can be conveniently viewed simultaneously. In a personal computer ... hard copy is a necessity.
— Carl Helmers, "Editorial," *Byte*, January 1980.

It ain't necessarily so ...
— "Sportin' Life", Porgy and Bess, 1935.

The conventional wisdom is that the printed program listing is an essential tool for microcomputer programmers. Even today, when the paperless society is heralded by the commercial world, programmers commonly feel that the paper program listing will be around for a long time to come. After all, what else could give such quick and easy access to all program lines, allow easy revisions, and permit a comprehensive grasp of the program?

But the printed listing is already obsolete, due to programming tools that are already present in most microcomputer systems.

Structured Programming is the first of these tools. It counsels a principle embodied everywhere in Nature from quarks to quasars — create a new system (or *module*) from smaller and simpler modules. The result is that, regardless of size, structured programs are inherently comprehensible.

The second tool is the BASIC interpreter. Before interpreters, programs as a rule could not run until they had themselves been processed by several programs: an editor, a compiler, an assembler, and a linker. This special processing required a wait that was measured in minutes, if not hours. But now a single program, the BASIC interpreter, can eliminate or perform all those functions itself, and do them almost instantly.

The third tool is the video terminal, which revolutionized data processing with a hundred-fold speed advantage over printing terminals.

Individually, these three tools are powerful enough. But combined with a simple software technique, they create the environment in which paperless programming can flourish.

I call this technique "ESP." Reminiscent of the claims for "extra-sensory perception," ESP responds with uncanny speed and accuracy to minimal keystrokes from the programmer.

The Discovery of ESP

Like many tools, the ESP technique was developed under pressure of an immediate problem. I had dauntlessly

---

Copyright © 1985, Roy J. Lipscomb

```
ESP? M↵
2000 REM ***********************************
2001 REM * MAINLINE ROUTINE *
2002 REM ***********************************
2010 REM
2020 REM ... MAINLINE STATEMENTS GO HERE
2030 REM
2040 REM
2060 REM
2070 REM
2080 STOP
2090 REM ....... END OF MAINLINE
Ok
```

Figure 1. *Display of Mainline Routine by ESP (see listing 1) after typing an* M. *(See listing 1.)*

```
ESP? S↵

S(Z)
 1      255
 2      511
 3     1023
 4     2047
 5     4095
 6     8191
 7    16383
 8    32767

ESP? D↵

D(A,B)
             1        2        3
 1           1        8       27
 2           8       64      216
 3          27      216      729
 4          64      512     1728
 5         125     1000     3375
 6         216     1728     5832
 7         343     2744     9261
 8         512     4096    13824


ESP?
```

Figure 2. *Display of arrays by ESP. Underlining indicates keys typed by the programmer. (See listings 2 and 3.)*

undertaken a project to write a game program at home. Since the program would probably be short and sweet, I was sure I wouldn't need a printer for program listings.

Days passed. The small program got longer, the revisions multiplied. Too slowly to notice, the job of searching out, typing, and mistyping line numbers grew more and more of a nuisance. The frustration continued to mount, unabated. One day it finally became unbearable; exasperated, I wheeled around to confront the problem.

> ***With the extension you can call ESP from critical points within the program, observe the latest changes in any or all array values, then resume program execution by pressing Return.***

At that moment, inspiration struck. "Why not let the computer remember the line numbers? Why not write a subroutine to retrieve subroutines?"

Drawing a breath, I typed two lines,

```
1 LIST 1-2↵
2 END↵
```

When I typed `RUN`↵, the computer dutifully listed the two lines. It worked! A few more minutes coding, and ESP was born.

I comfortably finished the project a few weeks later, without using printed listings. In fact, I now preferred working without the distraction of printed listings.

The ESP Concept

ESP is a BASIC subroutine that displays program lines. It serves as the master module of the program during editing, just as another module acts as the master module during execution. Hence, ESP is a form of *Extended Structured Programming.*

The use of ESP removes the main objection to video program listings: the LIST command is slow and clumsy, and requires the effort of remembering line numbers. ESP requires only simple two letter and three letter commands.

ESP can be employed under any BASIC interpreter that can accept the line `1 LIST 1` as an executable statement.

ESP has two sections:

Section A

Input the Request. The request should be one of the following:

1. The initials of a subroutine.
2. The Return key, to exit ESP but continue with execution of the program.
3. `END` or Control-`C`, to end both ESP and the program.

Section B

Display the Subroutine. The display can be halted temporarily by typing the freeze character — Shift-@ for TRS-80 Level II BASIC, Control-`S` (`^S`) for CP/M.

The display can be ended (to allow you to resume editing) by typing Control-`C` (`^C`).

An example is given in listing 1. All examples are optimized for legibility, and also for compatibility with most BASICs. To optimize for performance, discard most of the REM

To list program lines, a programmer normally must type `LIST` and the numbers of the first and last lines. Using ESP, the programmer types only two or three letters.

To try this example, type `RUN`, followed by upper-case `M`, `IO`, or `ESP`. This will display the Mainline, the Input/Output, or the ESP Routine respectively. (See figure 1.)

Other commands are described in the text.

```
50 REM *************************************
51 REM *              DO ESP               *
52 REM *************************************
53 REM
54 GOSUB 9000
55 REM
2000 REM **********************************
2001 REM *        MAINLINE ROUTINE        *
2002 REM **********************************
2010 REM
2020 REM ... MAINLINE STATEMENTS GO HERE
2030 REM
2040 REM
2060 REM
2070 REM
2080 STOP
2090 REM ....... END OF MAINLINE
2099 REM
2200 REM **********************************
2201 REM *    INPUT/OUTPUT ROUTINE        *
2202 REM **********************************
2210 REM
2220 REM PAGE 1 OF INPUT/OUTPUT STATEMENTS.
2230 REM
2240 REM
2250 REM ..... ARBITRARY END OF PAGE 1.
2260 REM PAGE 2 OF INPUT/OUTPUT STATEMENTS.
2270 REM
2280 REM
2290 REM
2300 REM
2310 REM ..... ARBITRARY END OF PAGE 2.
2399 REM
9000 REM **********************************
9001 REM *        ESP ROUTINE             *
9002 REM **********************************
9003 REM
9004 X$=""
9005 PRINT
9006 INPUT "ESP"; X$
9007 PRINT
9008 REM
9020 REM ------------------ ----------------
9021 REM -              RETURN             -
9022 REM ----------------- -----------------
9023 IF X$="" THEN RETURN
9024 REM
9025 REM
9030 REM --------------- -------------------
9031 REM -               STOP              -
9032 REM --------------- -------------------
9033 IF X$="END " THEN STOP
9034 REM
9035 REM
9100 REM ---------------- ------------------
9101 REM -            ESP DISPLAY          -
9102 REM ----------------- -----------------
9103 IF X$= "ESP" THEN LIST 9000-9999
9112 REM
9113 REM
9150 REM ---------------- ------------------
9151 REM -      INPUT/OUTPUT DISPLAY       -
9152 REM ----------------- -----------------
9153 IF X$= "IO" THEN LIST 2200-2310
9158 REM
9159 REM
9200 REM -----------------------------------
9201 REM -         MAINLINE DISPLAY        -
9202 REM --------------- -------------------
9203 IF X$= "M" THEN LIST 2000-2090
9208 REM
9209 REM
9996 REM -------------- --------------------
9997 REM -           END OF ESP            -
9998 REM --------------------- -------------
9999 GOTO 9003
```

Listing 1. *A BASIC program to illustrate ESP, a subroutine that lists subroutines.*

statements and, if your BASIC allows, use multi-statement lines wherever feasible.

In studying the example, notice that ESP is called from the very beginning of the program, so that it is invoked by simply typing `RUN`↵. On those occasions when you wish to actually test (instead of edit) the program, just press Return when the prompt `ESP?` appears.

Also, ESP can display itself. This allows easy review and revision of the ESP module itself as your program grows. These revisions are expedited if the display section is maintained in alphabetical order.

Note: This will eventually cause line-number crowding within the ESP routine. At such time, the `RENUM` command will ease the problem by renum-

```
10 REM ....................................
11 REM      CREATE STRING OF 10 BLANKS
12 REM ....................................
13 B$="          "
14 REM ************************************
15 REM *  CREATE SINGLE-DIMENSIONED ARRAY *
16 REM ************************************
17 Z=8
18 DIM S(Z)
19 REM
20 REM ------------- ---------------------
21 REM -        ASSIGN ANY VALUES          -
22 REM -------------- --------------------
23 S(1)=255
24 FOR X=2 TO Z
25 S(X)=(S(X-1)+1)*2-1
26 NEXT X
27 REM
28 REM
9360 REM ------------- --------------------
9361 REM -          ARRAY S(Z)             -
9362 REM ------------ ----------------------
9364 IF X$<>"S" THEN GOTO 9398
9365 REM
9370 PRINT "S(Z)"
9372 FOR X=1 TO Z
9374 PRINT RIGHT$(B$+STR$(X),3);
9376 PRINT RIGHT$(B$+STR$(S(X)),9)
9378 NEXT
9398 REM ................ BYPASS S(Z)
9399 REM
```

Listing 2. *Extension to Listing 1 that allows display of single-dimensioned array S(Z) by typing "S".*

bering both the program lines, and the line numbers within the LIST statements.

To test this, renumber the one-line program `1 LIST 1`. (Do not renumber listing 1 until all extensions described below have been added.)

Also note that ESP is located at the end of the program, where it does not interfere with execution speed, and where it may easily be deleted if space runs out.

> ***[In BASIC] the list comand is slow and clumsy, and requires the effort of remembering line numbers. ESP requires only simple two letter and three letter commands.***

The Advantages of ESP

I'm still amazed at how much ESP helps my concentration and efficiency. This is partly the consequence of several features:

- There is no need to remember and type line numbers.
- Subroutine initials are easy to remember.
- Subroutine initials are faster and easier to type — and it's easy to change those that aren't.

In addition, distractions are curtailed because there is no need to wait for listings to be printed, hunt down lines or subroutines, switch attention back and forth between the screen and a printed listing, or decipher scrawls on a printed listing. (Revisions are made directly in place to the program itself, and can be displayed and confirmed immediately.)

Enhanced ESP

Soon after ESP was in use, enhancements suggested themselves:

WK — Work on Line

Despite ESP, I sometimes found myself wading through an occasional long display to get to the lines I needed. The delay was brief but distracting.

A solution eventually surfaced. I reserved the initials `WK` (and `WK2`, etc.) for temporary assignment to the lines I presently was doing most of my "work" on.

Thus typing `RUN`↩ and requesting `WK` would immediately display the lines I wanted. (Insert `9010 IF X$=''WK'' THEN LIST 2050-2160` into listing 1 to try this out. In some cases, an even better solution would be to insert the line `1 LIST 2050-2160`; then all you have to do to display the lines would be to type `RUN`↩.)

Dynamic ESP

The uses of ESP described above have concentrated on line editing. But can ESP help in debugging a program while it is actually running? The answer is a definite yes. Here are two uses I have found so far:

Arrays. Arrays can be displayed just as well as subroutines can.

With this extension, you can call

```
10 REM ..................................
11 REM .    CREATE STRING OF 10 BLANKS
12 REM ..................................
13 B$="          "
30 REM ***********************************
31 REM *  CREATE DOUBLE-DIMENSIONED ARRAY *
32 REM ***********************************
33 A=8
34 B=3
35 DIM D(A,B)
36 REM
37 REM  -------------- ------------------
38 REM -       ASSIGN ANY VALUES         -
39 REM  -------------- ------------------
40 FOR X=1 TO A
41 FOR Y=1 TO B
42 D(X,Y)=X*X*X*Y*Y*Y
43 NEXT Y
44 NEXT X
45 REM
46 REM
9160 REM  -------------- ---------------
9161 REM -         ARRAY D(A,B)         -
9162 REM  --------------- --------------
9164 IF X$<>"D"  THEN GOTO 9198
9166 REM
9168 PRINT "D(A,B)"
9170 REM ................ LABEL THE COLUMNS
9172 PRINT RIGHT$(B$,3);
9174 FOR Y=1 TO B
9176 PRINT RIGHT$(B$+STR$(Y),9);
9178 NEXT Y
9180 PRINT
9182 PRINT
9184 REM ................ PRINT THE ARRAY
9186 FOR X=1 TO A
9188 PRINT RIGHT$(B$+STR$(X),3);
9190 FOR Y=1 TO B
9192 PRINT RIGHT$(B$+STR$(D(X,Y)),9);
9194 NEXT Y
9195 PRINT
9196 NEXT X
9198 REM ................ BYPASS D(A,B)
9199 REM
```

Listing 3. *Extension to Listing 1 that allows display of double-dimensioned array D(A,B) by typing "D".*

ESP from critical points within the program, observe the latest changes in any or all array values, then resume program execution by pressing Return. (This enhancement has saved me a tremendous amount of time and effort.)

Assisting the BASIC interpreter. Your BASIC may have commands to display the amount of unused RAM, to display the name and values of all variables in a program, or do other such things. If not, you can easily implement these features via ESP and a little ingenuity.

Single List vs. Multiple List

ESP is designed to continuously prompt for a new operation after it completes an old operation. However, after a LIST statement is performed, some BASICs will immediately terminate the program and ESP. ESP can still be used with these BASICs, but with somewhat reduced flexibility.

> ***One day it finally became unbearable [to not have paper listings]; At that moment, inspiration struck. "Why not let the computer remember the line numbers? Why not write a subroutine to retrieve subroutines?"***

If your BASIC does not terminate after a LIST statement, you have at least three advantages:

1. ESP can perform multiple listings, without the need to type `RUN`↵ between each LISTing.
2. The `WK` initials described above can be used to display lines contiguously even if they occur in widely separate sections of the program. (See listing 4.) This allows convenient comparison and editing of related lines from multiple subroutines.
3. Listings of long subroutines can be broken up into screen-sized *pages*, with an automatic freeze of the display after each page. (See listing 5.)

Note that `INPUT X$` in Listing 5 is not intended to gather data. Rather, it serves to freeze the screen so you can review the page just listed, and to allow retrieval of the next page by simply pressing ↵ (Return key).

This automatic-freeze technique may be preferable in some situations to using the standard freeze-character technique described earlier.

```
9010 REM ---------------- -----------------
9011 REM -          CURRENT WORK          -
9012  REM -------------- -------------------
9013 IF X$<> "WK" THEN GOTO 9018
9014 REM
9015 LIST 50-54
9016 PRINT
9017 LIST 9000-9006
9018 REM ................ BYPASS "WK"
9019 REM
```

Listing 4. *Extension to Listing 1 that allows contiguous display of non-contiguous lines. This will not work with some BASICs that can nonetheless employ ESP.*

Notice that the pages overlap by one line. This insures that no lines are inadvertently skipped during display.

```
9153 IF X$<>''IO'' THEN GOTO 9158
9154 REM
9155 LIST 2200-2250
9156 INPUT X$
9157 LIST 2250-2310
9158 REM ................ BYPASS ''IO''
9159 REM
```

Listing 5. *Extension to Listing 1 that allows automatic freezing of the display after each screenful or "page" of lines. This will not work with some BASICs that can nonetheless employ ESP.*

Summary

ESP is a BASIC subroutine that speeds up some of the clerical tasks of developing a program. One result is that the need for printed listings is cut back or eliminated.

Among the tasks that ESP can perform is the displaying of subroutines, variables, arrays, and free space. Once the ESP module is in place, still other uses can be found and easily incorporated.

About the Author

Roy Lipscomb is proprietor of Logic Associates, a small-systems consulting house. His checkered past includes teaching primary school, teaching college philosophy, consulting on large computers, and helping to direct community organizations. Among his special interests are the outdoors, science, linguistics, classical music, CACHE (Chicago Area Computer Hobbyist Exchange), and philosophy as impacted by computers.

$29.95 (MDM-7XX PLUS) $29.95

PUBLIC DOMAIN'S MOST POPULAR MODEM PROGRAM

New Documentation with table of contents, illustrations, and Index (very complete!). Includes useful appendices of CP/M and MDM-7 commands and syntax.

Written by Irv Hoff (original author) and Byron McKay

Osborne 1 - Osborne Executive - Osborne Vixen - Kaypro 2,4,10
Ampro 100 - Morrow Md 2,3 - Lobo Max 80 - Telcon Zorba
Write for other formats and computers!

Send check or money order for $29.95 + $5.00 shipping (California residents add 7% sales tax) per copy to:

Delphi Data Systems P.O. Box 391567, Mountain View, CA. 940391567

Circle number 7 on the reader service card.

New Products

CP/M and MS-DOS computers, software, communications products, networks and accessories

Free information is available on the products described here. We provide a *reader service card* in this issue with numbers corresponding to each product announcement. Simply fill out the reader service card and drop it in the mail (please include your address). We forward your address to the product manufacturer or vendor, who sends you the information.

Thanks for filling out the questionaire on the card. This feedback helps us plot an editorial course, and the answers provide demographic information to media planners. The more responses this magazine can generate, the more it can grow in pages and in product coverage. We appreciate your support.

The press announcements in this section have not been checked for accuracy, and we cannot verify that the products are available at this time. In most cases we do not have the products in-house, and they have not yet been reviewed in this magazine. Therefore, take claims of product features and benefits with a "grain of salt."

Computers and Systems

Two Multi-User CompuPros

Viasyn Corporation (formerly CompuPro, a division of Godbout Electronics) is adding two new multi-user, multi-tasking microcomputer systems to its CompuPro® 286® product family. The CompuPro 58 and 86 will be introduced at the NCC in Chicago, July 15-18.

Viasyn says the high-performance components (manufactured by Viasyn) in these two new systems "offer minicomputer power and speed at microcomputer prices."

Expandable to accommodate up to eight users, these two-user systems have been designed to meet the needs of smaller businesses and departments of large corporations which have increasing word processing and data processing needs.

The CompuPro 86 includes a CompuPro CPU board with a 10 MHz 8086 processor. The CompuPro 58 features a CompuPro board with both 10 MHz 8088 and 6 MHz 8085 processors. Both systems include a 10 megabyte hard disk, an 800K 5.25-inch floppy disk drive, four serial ports, one parallel port and one Centronics printer port, plus software, and retail price is under $6000.

Software distributed with each system consists of Viasyn's Concurrent DOS 8-16 operating system, NewWord word processing and SuperCalc 2-86 electronic spreadsheet programs. Users have access to thousands of additional PC-DOS and CP/M application programs (word processing, financial analysis, inventory control, data base management, etc.) available commercially and in the public domain; the floppy drive can read IBM PC data Disks.

Optional extras include a 40 megabyte or 80 megabyte hard disk instead of the standard 10 megabyte disk, slave processors, a tape backup storage unit, Viasyn's new video board that allows use of Lotus 1-2-3, GEM, and similar color graphics programs, and an ARCnet-compatible local area network.

Both systems can be used stand-alone or networked. "Growing businesses looking for affordable system upgrades, and departments within large organizations who seek systems that can operate independently or in conjunction with centralized data processing systems" are targeted as customers. Expansion is easy with the availability of nine open board slots for memory storage devices, peripherals, networking, communications, solid-state disk emulation, PC video and other system add-ons.

For more information on these and other CompuPro systems, contact: Viasyn Corporation, 3506 Breakwater Court, Hayward, CA 94545. (415) 786-0909.

Circle 51 — reader service card.

128K Amstrad CP/M Computer

The Amstrad CPC6128 is a 128K personal computer for home or office which offers true PC power and capability for under $800. The new Amstrad comes bundled and ready-to-go, complete with keyboard, 3 inch disk drive, monitor and operating software.

The new Amstrad comes in two package configurations. Both include 128K RAM memory, CP/M and AMSDOS operating systems, BASIC and LOGO languages, a built-in 3 inch disk drive, and a bundled monitor. One system includes a high-resolution 640 x 200 full-color RGB monitor, operating software, Amstrad's word processor, and entertainment software, all for $799 suggested retail price. The alternative system includes an 80-column monochrome green monitor with operating software and WordStar word processor, for $699 suggested retail price.

The CPC6128 includes built-in ports for adding peripherals such as Centronics compatible printer, speech synthesizer, modem, second disk drive, stereo sound output, joystick, and tape saver. You can add up to 252 additional 16K ROMs.

AMSDOS is a disk operating system which expands Locomotive BASIC, adding additional commands to make full use of the disk files. AMSDOS and CP/M share the same file structure and can read and write each other's files.

Digital Research's CP/M version 2.2 and version 3.1 are supplied, permitting the user to access the software written for CP/M. Digital Research GSX graphics enhancement is included.

Three blank 3 inch hardcase-protected floppy disks are included in each system package.

Amstrad will support its computers with an initial warranty of one year on parts and labor, and an extended service warranty will be provided by a nationwide firm. A monthly user magazine will also be available.

ACTIVE TRACE

"Software that lives up to its promises. *When a Basic program doesn't work the way you want it to, this package... will help you track the problem down... Scope is a tool for the beginning, advanced, or professional programmer, and it begins where the cross reference maps leave off."*

Howard Glosser, *Softalk for the IBM Personal Computer* July '84, pp 120-121

"Extremely useful program... *Anyone doing much programming in Basic should appreciate Active Trace a lot."*

Jerry Pournelle, *Byte Magazine* April '83, p 234

"A marvelous Basic programming aid... *It's just amazing to watch a program you wrote run under Scope, and debugging becomes if not trivial, then at least doable"*

Thomas Bonoma, *Microcomputing,* Dec. '83, p 22

*"... **a really neat utility**... designed to untangle even the most convoluted Basic program.... The documentation is almost worth the price of the package."*

Susan Glinert-Cole, *Creative Computing,* July '84, p 210

Active Trace will lead you through your program letting you know variable values (all variables or just those you specify) as they change. Your program's internal activity is presented on your screen, or printer, or it can be saved on disk. **It's simple, effective and works with the BASIC you already own.**

Active Trace $79.95

Includes Scope, XREF mapping and documentation

Active Trace is available for most **MS-DOS** and **CPM 2.2** systems and supports the special features of Brand specific versions of Microsoft Basic such as **Basica** on the **IBM-PC**.

AWARECO
Active Software

P.O. Box 695 Gualala, CA 95445
(707) 884-4019
800-358-9120(US) 800-862-4948(CA)

Active trace, Active software, and Scope are trademarks of AWARECO—CPM is a trademark of Digital Research—MS-DOS and Microsoft are trademarks of Microsoft Corporation—IBM-PC is a trademark of IBM Corp.

Circle 1 on your reader service card.

For more information contact: Amstrad Computers, Merchandise Mart, Chicago, IL 60654. (312) 295-7100.

Circle 52 — reader service card.

Software

Mini-Ledger Additions

Paradigm Consultants (who brought you Mini-Ledger, reviewed in *User's Guide* #8) announces Accounts Payable and Accounts Receivable programs which integrate with Mini-Ledger. Both programs use an input screen which is almost identical to the one used in Mini-Ledger, so users who are familiar with one program in the series will have little trouble learning the others.

Both Accounts Payable and Accounts Receivable provide "aging" of accounts in terms of past due and due in the future. Both programs feature fast on-screen sorting based on: date due; chart-of-account codes (category of expense or income); urgency; and payee or customer (shows the bills for a given company).

Entries from both AP and AR can be transferred to Mini-Ledger once they have been marked paid.

Paradigm is currently working on a new version of Mini-Ledger which will include checkwriting, expected to be released before this magazine reaches you.

Accounts Payable and Accounts Receivable cost $50 separately or $75 for both. Current Mini-Ledger owners can get a free update of Mini-Ledger with the purchase of either the AP or AR program.

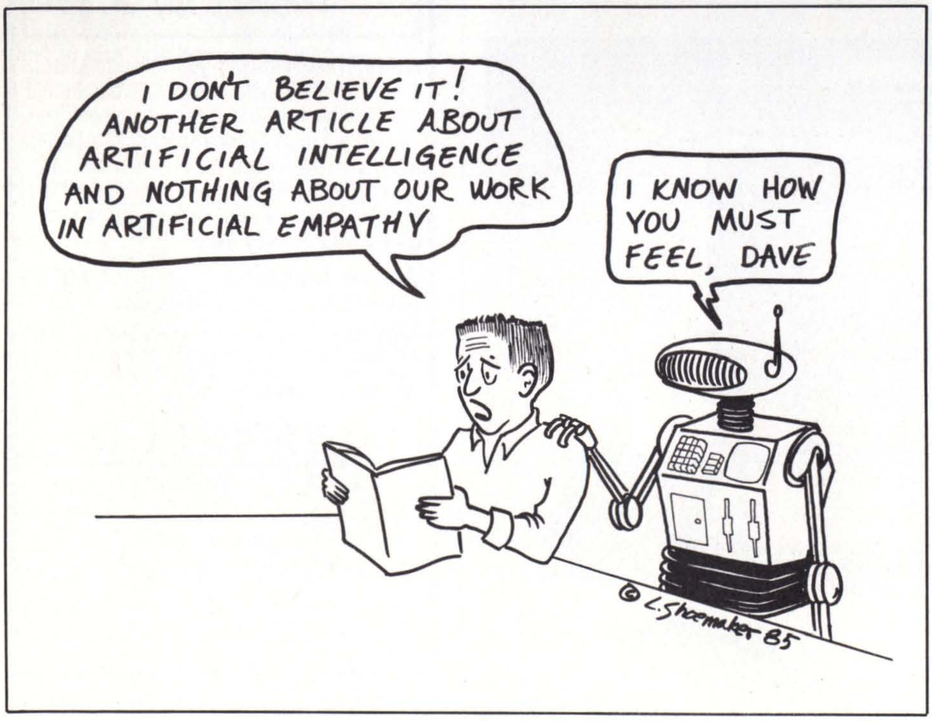
For more information contact: Paradigm Consultants, 39243 Liberty Street, Suite L, Fremont, CA 94538. (415) 796-0543.

Circle 53 — reader service card.

Agricultural Software

Datasphere Computer Systems introduces the Terra/Pac system, a series of integrated management and accounting programs designed to help nurseries, fruit and produce packing sheds and wholesale growers maximize profits through marketing, inventory and cost control. This interactive program includes General Ledger, Accounts Receivable, Accounts Payable, Asset Depreciation, Payroll, Sales Order, Purchase Order, and Inventory Control modules.

Datasphere (a leading developer of software for agribusiness) developed the Terra/Pac system in record time by using the "Sensible Solution", a fourth generation relational data base management system (from O'Hanlon ComputerSystems of Redmond, Washington.


I DON'T BELIEVE IT! ANOTHER ARTICLE ABOUT ARTIFICIAL INTELLIGENCE AND NOTHING ABOUT OUR WORK IN ARTIFICIAL EMPATHY
I KNOW HOW YOU MUST FEEL, DAVE
© L. Shoemaker 85

The Terra/Pac system runs on single and multi-user CP/M, MP/M and MS-DOS operating systems and is priced from $3000 to $10,000 depending upon the modules selected to meet individual business needs.

For more information, contact: Datasphere Computer Systems, 10260 S.W. Nimbus Avenue, Suite M-11, Portland, OR 97223.

Circle 54 — reader service card.

Spreadsheet Template For "What If?" Corporate Tax Planning

TaxCalc Software Inc. offers a new tax planning template that helps corporations maximize their tax savings through efficient tax planning using "what if?" analysis. Versions are available for federal corporate returns and also for California corporate returns.

The TaxCalc Corporate Tax Planner helps corporate officers, tax planners, and others determine whether taxes could be reduced by increasing deductions, decreasing income, or a combination of both. It lets officers compare the minimum tax, the alternative tax on capital gains, various credits, and special deductions in an effort to reduce corporate liability. Three alternatives are displayed on the screen at all times, and other results are just a keystroke away using any of several spreadsheets.

Users fill in the data that corresponds to the appropriate tax form and use the spreadsheet's recalculate command to post all results. Any or all variables can be changed and the spreadsheet can be recalculated to see the effect. If the template is used with Lotus 1-2-3, SuperCalc 3 or VisiCalc IV, the effect can be observed graphically..

All TaxCalc tax planning templates work with these spreadsheets and others, like Multiplan and Report Manager. They can be used on most CP/M systems, as well as on IBM, Apple, and Tandy computers. Minimum requirements for most systems are one disk drive and 128K of RAM.

The TaxCalc Corporate Tax Planner is available for $150, and Corporate California Tax Planner is available for $50 at participating TaxCalc dealers or direct (dealer inquiries invited).

For more information on these and other TaxCalc spreadsheet templates for evaluating the feasibility of incorporating, tax planning for individuals, pensions, insurance costs, business valuation, and retirement planning, contact: TaxCalc Software, Inc., 4210 West Vickery Blvd., Fort Worth, TX 76107. (817) 738-3122.

Circle 55 — reader service card.

Bobcat File Cataloguing Program

If you are an active computer user, or more than one person operates your computer system, Bobcat 3 offers help keeping track of the file names on your disks. This program tells you which disk your letter, program or file is on.

Bobcat 3 creates a data base of file names. As each disk is read automatically, Bobcat 3 records the disk number, user area or sub-directory, filenames, filetypes, and sizes. It optionally records a file title. After sorting them in order, the program stores the data in a data base, and the menu-driven program allows you to add, delete, update, search, or print out the disk catalog data base.

Seven report formats may be displayed on the screen, written to a disk file, or printed, and will contain the filenames in the data base or the filenames selected by the user. Wild card options are available. Bobcat 3 allows the user to assign a disk title of up to 45 characters. In addition, the program will optionally read a 65 character file title from the file itself as it is catalogued.

Additional software is provided to allow the user to convert the data base to files usable with BASIC, C, dBASE and other languages. Bobcat 3 is available for CP/M, MS-DOS and IBM PC computers. The disk and manual cost $49.95 (plus $2.00 for shipping and handling). Specify make of computer when ordering. California residents should add state sales tax.

For more information or to order, contact: Elliam Associates, 24000 Bessemer Street, Woodland Hills, CA 91367. (818) 348-4278.

Circle 56 — reader service card.

Announcements

Computer Supplies Catalog

The MISCO Computer Supplies and Accessories catalog for Summer 1985 is available free, full of disks, security devices, computer furniture, printwheels, and more.

MISCO features its new data security disks that eliminate the need for expensive add-on hardware to protect your confidential data files and programs. These disks are marked with unique "fingerprints" and a precise description of the print is encoded on each disk. Whenever a protected file is accessed the description is compared and only when an exact match occurs, is the decrypted data released.

Filelok® data security disks provide file-by-file security selection, protected back-up copies, optional passwords and hard disk compatibility. Filelok data disks work with most PC/MS-DOS software. Prolok® security disks allow protection of software programs against unauthorized duplication. Prolok operates on a wide variety of computer systems and is compatible with most software. The disks are offered in a sample pack of two for $17.95 per pack or in a box of ten disks, available for $89.5 per pack.

To order disks or the catalog, con-

New Products *continued on page 71.*

NEWWORD®
VERSION 2
NOW ONLY $100!

HERE ARE SOME OF THE FEATURES YOU GET:
- 30 day money back guarantee
- WordStar/MailMerge compatible — file, keystroke, command
- Mergeprint is standard — including conditionals (if, then, else)
- Displays underline, bold, & inverse on the screen*
- Unerase — delete a line by accident? Unerase it!
- Microjustified printing on dot-matrix printers
- Word Plus™ spelling checker $50 extra

MONEY BACK GUARANTEE
ORDER NOW!

(800) 932-2526 • (415) 932-2526 (CA only)
OR SEND CHECK OR MONEY ORDER TO:

Newstar Software, Inc.
1601 Oak Park Blvd.
Pleasant Hill, CA 94523

- send $100 for Newword
- $3.00 shipping & handling
- CA residents add sales tax
- VISA/MC accepted

NEW STAR

*terminals with non-embedded attributes only
offer applies to CP/M™ versions only
Newword, CP/M, WordStar, MailMerge are trademarks of
Newstar Software, Digital Research, and MicroPro
Word Plus is a trademark of Oasis Systems

Circle number 15 on the reader service card.

CP/M-80 •
PC-DOS •
MS-DOS •

Questext III

If you use outlines for any reason, even to sell used cars, check out this inexpensive outlining program and template package.

by Dana Blankenhorn

Questext III, for CP/M and MS-DOS/PC-DOS computers, and the WP Toolset (MS-DOS/PC-DOS only at this time), are available from Information Reduction Research (iRr), 28 Ridgewood Rd., Concord MA 01742 (617-369-5719). Price: $35.

Questext III is an outlining program running under CP/M and PC-DOS which has many uses. For the price ($35, including the WP Toolset for PC users) it's unquestionably a bargain.

But is it useful?

The program's makers, Information Reduction Research (iRr) of Concord, MA, include a number of template files with the program which suggest a wide range of uses. (They're creating more all the time, and it's advised that you check with iRr before building your own — it might save some work.) Included are a log for correspondence, a planning system, and a used car inventory system, along with a phone and address book. This reporter played with two more interesting applications: a phone and address book and an outline processor.

Loading

I mostly used the PC-DOS version of the product (96K RAM required), but there are only a few variations between it and the CP/M version. The main files, QU.EXE and QF.EXE (".COM" in CP/M versions), handle the basic file manipulation and file utilization functions, respectively. There is also a module to build an application (QB.EXE or ".COM"), pull text from an application (QI.EXE or ".COM"), and two files which, along with Questexts' own XPAUTO (automatic expert) application, included, allow for more extensive inquiries (Q.EXE or ".COM" and QOB.EXE or ".COM"). There is even a public access inquiry function (QP.EXE or ".COM") available for an extra charge from iRr ($99.95, to be exact).

In addition, five more small files must be part of any disk containing an application. These files have the extensions ".XP", ".CLS", ".SCL", ".QLS" and ".ALS". All five files are invoked when the application's name is entered.

Using any application takes a minimum of two disks. Under DOS the main disk should contain the operating system, while the disk containing the application files could hold almost 360K of information under the IBM double-sided double-density format. (Your mileage may vary, depending on the size of your disk drives. Unfortunately, I don't have a hard disk and hence could not test the speed of the program using one.)

There is only one inherent limitation in the scope of files under Questext III. A maximum of 99 headings, 99 subheadings, 99 headings and 99 text entries are available, so an absolute maximum of 99 to the 4th power entries can be retrieved. (Again, your mileage may vary, depending on the application.)

Once you've copied the QU and QF files onto a working diskette, and the five application files onto a second formatted diskette, you're ready to work. In the case of the phone address book, you should format two disks:

```
A>format/s b: ↵
```

— for the disk containing QU and QF.

```
A>format b: ↵
```

— for the disk containing the application.

Then copy the relevant files: QU.EXE or QU.COM and

Copyright © 1985 Dana Blankenhorn, @HMWT

QF.EXE or QF.COM (for the main disk), and `QTXT.MSG` (the help files); also copy Q.EXE or Q.COM (the retrieval program) to drive B, and use the following copy operation:

```
A>copy phonaddr.* b:↵                (MS-DOS version)

A>pip b:=a:phonaddr.*↵               (CP/M version)
```

— for the disk containing the application.

After properly labeling the two disks, Questext Working Disk and Questext Phone Address, you're ready to start using the program:

```
A>qu↵
```

A welcome to Questext will also bring the message `Hit any Key`. After pressing a key, you're welcomed to MENU 2, which offers the main Questext features, as follows:

```
H - Help
A - Activate an Expert
I - Inquire Only
B - Build, Print or Inquire
R - Review (All Functions Available)
F - File operation
S - Supplementary Operations (MENU 3 if available)
X - Exit to System
```

Now select `A` and press Return. Questext replies with `Which DRIVE are the Xpert files on?` Type `B` and press Return (we show Return as ↵).

Questext replies with `Do you want to see the Xpert file names?` Since you know which file you want, press ↵.

Questext III can be applied anywhere a tree structure can be applied to a problem.

Questext replies with `Type the name of the Xpert system you want to use`. Type: `phonaddr`↵.

If you make a mistake going through this exercise, simply hit the ESCape key and you'll return to the top of MENU 2.

After you finish activating Xpert, you'll see a description of it, as follows:

```
PHONAD1 is a telephone number/address book. It has been
limited to 6 lines of text intentionally for use with the
mini
version. The full version will allow the addition of more
categories.
```

Press any key to return to MENU 2, as above. Since you've activated the Xpert, however, type `B`↵. This brings you to what Questext calls the Major Category Level, and another menu:

```
1* Introduction
2* PLEASE TYPE 2 TO CONTINUE
3* *+GENERAL+*
```

GENERAL is a catch-all category. Putting items into GENERAL won't organize them, however, unless you decide for yourself what GENERAL means to you. In this case, it's used to see the possible sub-categories. But take the hint and hit `2`↵.

Six sub-categories are automatically loaded into PHONADDR, but you can create more easily. They come in a menu, from which you type the number of the selection you wish to enter:

```
1 EMERGENCY
2 REPAIR
3 FAMILY
4 FRIENDS
5 BUSINESSES AND SERVICES
6 BABYSITTERS
```

Functions (activated by typing a letter) are also displayed:

```
Help Show Add Up Top Review Print Quit or NO. to 6
```

Here's what they mean:

`H` — Display on-screen help.

`S` — Show where you presently are within this application (a major category, sub-heading, and if so which one.)

`A` — Add a new listing to this level.

`U` — Go up to the next level in this application. If you're presently entering a heading, you'll be sent to the list of sub-categories.

`T` — Go to the top of this application, the list of major categories.

`R` — This will give you a screen display of everything you've entered up to this point, in this category.

`P` — Print the current level and everything below it.

`Q` — Quit this session.

`NO.` — Enter any number and you can enter information under this listing.

To create a new sub-category, type `A`↵. You'll see the prompt `Type the NAME of the SUB-CATEGORY`. Type: **`PUBLISHERS`**↵.

The sub-category menu will now return, but PUBLISHERS will be added as selection 7. So hit `7`↵. Questext replies with `HEADING LEVEL - NONE FOUND`, because you haven't entered any publishers into the system.

So, type `A`↵. Questext replies with `Type the new HEADING line`. For this example, type:

```
User's Guide to CP/M and MS-DOS Computers↵
```

Again, the heading level menu will come back, but this time there will be a choice available:

```
1* User's Guide to CP/M and MS-DOS Computers
```

Type `1`↵. Questext replies with `TEXT LEVEL - NONE FOUND`. Now, start entering your text, hitting Return (↵) after every line to return to the TEXT menu. You'll have the following when you're done:

Included are suggested applications: a log for correspondence, a planning system, and a used car inventory system, along with a phone and address book.

```
1* TUG Inc.
2* Box 5245
3* Redwood City, CA 94063
4* (415)851-7352
```

When you're done entering the address and phone number, type **`N`**. Questext replies with the `HEADING MENU`, topped by `USERS GUIDE TO CP/M AND MS-DOS COMPUTERS`. All you need do now is continue entering new addresses with the A function, going back to the HEADING and SUB-CATEGORY levels with the **`N`** function, until your phone book is completely entered into the system. Then exit the system and you'll be ready to start retrieving information from it.

Retrieval

You've already gone through most of the actions needed to retrieve or print a Questext file. Enter the program with `QU`↵, then activate an expert with `A`↵, and type the expert name at the prompt. Then once again type `B`↵ because this function allows for printing and additions to the file, as well as inquiries.

If you don't want someone else to enter your Questext system except to inquire, specify `I`↵ but you won't be able to print files. Follow the prompts to the sub-category level. In our case we only entered information on PUBLISHERS, so that sub-category will have an asterisk (*) next to its name. You can inquire on-screen of this category by typing numbers, or you can print part or all of the file by typing `P`↵.

You'll get the following prompt: `Type the NUMBER to print (S=screen, W=Whole Xpert, ESCAPE KEY=interrupt`. In this case you type `W`↵ to reach the following prompt: `Type D to write to disk or RETURN KEY for hard copy`.

That's it. You'll find that, using the pre-loaded Xpert files and the prompts, Questext is a very simple program to use. But what if you want to create a new Xpert? How does the program respond then? To test that, we tried using Questext as an outline processor a la ThinkTank, the application being the production of this very article.

Questext as Outline Processor

Creating a new application, which Questext calls an "Xpert Shell", takes a new disk and just a few minutes. Once you have a newly formatted disk in your second drive, put your working copy of Questext in Drive A and at the prompt type `QF`↵. This will bring you to MENU 1, showing the following options:

```
I - Introduction
H - Help
E - Editor Instructions
C - Create an Xpert Shell
M - Modify an Xpert Description
U - Use an Existing Xpert (MENU 2)
B - Backup an Xpert
D - Delete an Xpert
X - Exit to System
```

You want to enter `C`↵. You'll be asked which drive you want the files written on. In this case you want to reserve an entire new floppy disk for the application, so type `B`↵. You'll be asked, `What is the new Xpert name?` Enter **`CPM STO`**↵.

Here you'll find the rather cryptic, `Any file listed above as FOUND on this disk will be destroyed if you proceed! Do you want to continue? (Y/N)`. What this really means is the program doesn't want two Xperts with the same name sharing a disk. Type `Y`↵.

You will then be given the opportunity to describe yourself and your application for posterity — what you type will come up as an introduction each time the application's name is selected. Keep that in mind. There are three prompts which must be completed:

1. `Who is the creator of this Xpert?`

   I typed the name of my company:

   `@Have Modem, Will Travel`↵.

2. `Type a short description (Line 1 of 3; 65 chars.) RETURN=continue; ESC=interrupt.`

   I typed:

   `This is how to create a story on Questext`↵↵
   ↵.

```
3. Enter any notes here (Line 1 or 2; 65 chars.)
RETURN=continue; ESC=interrupt.
```

I typed ↵↵↵.

That's it. The five files necessary to create this new application are built into Drive B (CPMSTO.ALS, ".CLS", ".QLS", ".SCL", ".XP") and, when you return to MENU 1, you can select `U`↵ and enter the new application's name at the prompt.

At this point you have an empty outline to fill out in any way you want. After an initial Build session, you can come back to Revise it at any time. When you enter `R`↵ you get a number of functions which don't exist in Build, while all the Build functions remain in place. They are Delete, Insert, Move, and Edit. Here's what they mean:

`D` — Delete the current line of text, moving everything else up to compensate. Note — If you delete a major category, all the sub-categories, headings, and text entries below it will also be erased.

`I` — Add a line of text in between two existing entries, moving everything else down to compensate. Note — If you're at the bottom of a list of entries, use `A` (for Add) instead.

`M` — Move the current line of text and put it someplace else, so that a list of tasks can be kept in the proper order.

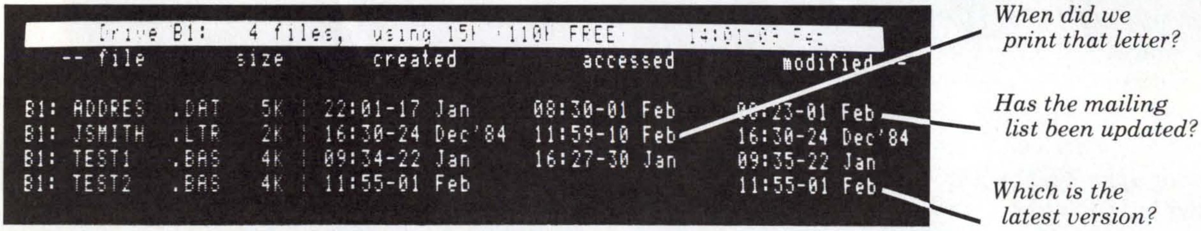
`E` — Edit or change the current entry. A few WordStar®-like commands like `^G` are supported when editing.

Conclusion

Questext III can be applied anywhere a tree structure can be applied to a problem. The program manual, whose writers must have made heavy use of the program because it has so many outlines, suggests many, many uses for the program, including school quizzes, filing of real estate prospects, a planning calendar, a resume, or a list of sales prospects.

Using Questext III is a little awkward, because you have to leave Build, which is basically an insert function, to make any changes in what you've done. Retrieving information from Questext III is also a little awkward, since you can't get anything outside the tree structure; *i.e.*, this is no dBASE II®. Still, consider the price, $35, and consider what Questext can do with just a little work, and you have a real tool at the price of a game. Even better, it runs under CP/M! For all these reasons, give iRr a call between 4-5 p.m. Eastern Time some afternoon with VISA card in hand. You won't be sorry.

DATESTAMPER™ has the answers



```
   Drive B1:   4 files, using 15K (110K FREE)      14:01-03 Feb
  -- file        size        created           accessed          modified --

B1: ADDRES  .DAT   5K | 22:01-17 Jan      08:30-01 Feb      08:23-01 Feb
B1: JSMITH  .LTR   2K | 16:30-24 Dec'84   11:59-10 Feb      16:30-24 Dec'84
B1: TEST1   .BAS   4K | 09:34-22 Jan      16:27-30 Jan      09:35-22 Jan
B1: TEST2   .BAS   4K | 11:55-01 Feb                        11:55-01 Feb
```

When did we print that letter?
Has the mailing list been updated?
Which is the latest version?

DateStamper™ keeps your CP/M computer up-to-date!

- avoid erasing the wrong file
- back-up files by date and time
- keep dated tax log of computer use
- simplify disk housekeeping chores

OPERATION: DateStamper extends CP/M 2.2 to automatically record date and time a file is created, read or modified. DateStamper reads the exact time from the real-time clock, if you have one; otherwise, it records the order in which you use files. Disks prepared for datestamping are fully compatible with standard CP/M.
INSTALLATION: Default (relative-clock) mode is automatic. Configurable for any real-time clock, with pre-assembled code supplied for all popular models. Loads automatically at power-on.
UTILITIES: Enhanced SuperDirectory • Powerful, all-function DATSWEEP file-management program with date and time tagging • Installation and configuration utilities
PERFORMANCE: Automatic. Efficient. Versatile. Compatible.

Requires CP/M 2.2. Uses less than 1K memory. Real-time clock is optional.

When ordering please specify format

8" SSSD, Kaypro, Osborne Formats	**$49**
For other formats (sorry, no 96 TPI) add $5.	
Shipping and handling	**$3**
California residents add **6%** sales tax	

MasterCard and Visa accepted

Specialized versions of this and other software available for the Kaypro.
CP/M is a registered trademark of Digital Research, Inc.

Write or call for further information

Plu*Perfect Systems

BOX 1494 • IDYLLWILD, CA 92349 • 714-659-4432

Circle number 18 on the reader service card.

ADVANCED USER/Bruce Morgen

Enhancing Your System and Managing User Areas

For ZCPR-like performance, check out the no-installation-required XCCP, and the SETDRU, PUBlic and DateStamper user area tools.

The CCP part of CP/M has always been a target for replacement or enhancement, and user areas have traditionally been a pain. Initiates into the Advanced User community, those dissatisfied with vanilla CP/M but not quite ready to commit to installation of a permanent CCP replacement like ZCPR2 or ZCPR3, can partake of many ZCPR advantages and other CCP improvements by using one of two "instant" enhancements, XCCP and EZCPR.

Though these two approaches aren't quite the "real thing", especially when compared to full-up ZCPR3, they are significant upgrades that can be "installed" on demand and removed just as easily — c'mon, get your feet wet!

XCCP — Easy and Sophisticated

Made available to the CP/M-compatible Public Domain by author Anton (Tony) Fleig, XCCP is a substitute CCP that operates as a resident system extension (RSX) in that it resides in memory directly under the standard CCP rather than overlaying it like ZCPR. It can be invoked from the CP/M command prompt by typing:

```
A>XCCP↵

XCCP Version 1.0 for CP/M-80
Copyright (c) 1984 Anton R. Fleig

This software may be used for non-commercial purposes
only. No commercial use of XCCP may be made without
the author's express written permission.
A0->
```

After signing on with the copyright notice, XCCP immediately becomes the user interface, recognizable by a distinctive command line prompt, `A0->` instead of CP/M's `A>` or `A0>`. Like ZCPR2 and ZCPR3, drive-user specifications under XCCP can use the *du*:

(*d* for drive, *u* for user) form — to get to drive B and user area 5 you can just type `B5:`↵
rather than `B:`↵
plus `USER 5`↵.
The *du*: form also allows invoking a ".COM" file from another user area with *u*:`filename`↵
or *du*:`filename`↵
in addition to CP/M's *d*:`filename`↵
convention.

Similarities to ZCPR don't stop there. XCCP automatically searches drive A and user 0 for a ".COM" file matching any invoked command not found on the default (current) *du*:
This is a real boon in that the system can now take real advantage of the user areas as an organizational tool without duplicate copies of often-used programs taking up disk space and directory entries — a simplified approximation of ZCPR's command search path function.

Like ZCPR2 and ZCPR3, XCCP allows multiple commands on a line, separated by semicolons (;), limited (with XCCP) to 127 characters. This capability, though not as versatile as ZCPR3's 200-character command line buffer, is still quite useful for short batch processing jobs.

XCCP has some features that even ZCPR3 lacks. One of th most unusual (on a microcomputer) is its command recall capability. XCCP stores up to 240 characters of previously typed commands in a *circular buffer*, to be recalled to the command line by typing Control-`E` (`^E`) or Control-`X`, the line up and line down commands of the WordStar® "cursor diamond". This is handy for repeating long command lines without retyping them and works very nicely with the multiple command feature.

XCCP also excels over CP/M and ZCPR3 in the area of command line editing. Rather than restricting itself to the limited BDOS line editing functions employed by the vanilla CP/M CCP and by ZCPR, XCCP incorporates a sophisticated command-line editor, again using familiar WordStar commands, Control-`V` to toggle the insert function on and off, Control-`S` and Control-`D` for cursor movement. Both the backspace and delete keys gobble up characters, behaving like Control-`G` in WordStar unless the cursor is at the end of the command line, in which case either key mimics the action of delete in WordStar (wipe out the character to the left, like backspace at the CP/M command prompt).

Another fascinating departure is XCCP's extension of the CP/M wildcard concept to include invocation of ".COM" files. If you can't quite remember the exact name of a program but know the first character or two, just type:

```
A0->E*
```

↑(ESCape key)

XCCP will list the wildcard-matching ".COM" files on the default *du*:

```
EX              EDFILE              ED              EDIT
```

Just remember to end the query with the ESCape key and not ↵ and you can use the command-line editor to pick the right program. If you use ↵, XCCP will load and run the first match it encounters on the default *du*:.

XCCP Limitations

As an RSX, XCCP does have some serious limitations. It does take up some memory, 1K or so at the very top of the transient program area (TPA) — not a real concern at all in most cases. It is however, hostile to both SUBMIT and the much-improved memory-based replacement for SUBMIT, EX14.COM. You'll have to drop back to the standard CCP (with a Control-`Y`) to use these programs, as well as CCP-intrinsic commands like TYPE, DIR, REN, ERA, USER and SAVE.

XCCP.LBR includes ".COM" file replacements for REN and ERA, the public domain software libraries offer dozens of TYPE and DIR transients, and USER is, well, useless under XCCP anyway. All in all, XCCP is chock full of good ideas — many of those still shackled to vanilla CP/M will find it quite a revelation despite the restrictions it imposes.

EZCPR Lives Up to the Name

EZCPR, written and made available to CP/M users by author Dennis Hamilton of The MSW Company, is another installation-free ZCPR alternative. Unlike XCCP, which goes its own way beyond a few basic ZCPR-like features, EZCPR is so much like ZCPR2 it's uncanny. EZCPR is not an RSX, it overlays the CCP like ZCPR, but does so from its own loader/remover program, EZCPR.COM. You just type:

```
A>EZCPR UP↵

EZCPR> #1.09 84-06-26 User Command Interface
               CP-MIG edition by Dennis E. Hamilton

CC00 = active CCP to be replaced by the new one.
2048 bytes needed, with 2048 allowed.

CC00-D3FF RELOCATED CODE BLOCK
D25E-D3FD   data segment
CD1E-D25B   instruction segment
CC02-CD1B   data segment

            EZCPR #1.09 84-06-26

A0>
```

This loads EZCPR over the CCP, albeit not permanently — the next warm boot will reload the standard CCP from the system tracks — goodbye EZCPR. To prevent this, use the GUARD.COM program included in EZCPR.LBR — type:

```
A0>GUARD UP↵
GUARD> #1.04 84-06-23 USER-ENVIRONMENT PROTECTION
               CP-MIG edition by Dennis E. Hamilton

User Interface is via EZCPR at CC00.
There is no protection.

PREPARING ENVIRONMENT PROTECTOR:

CC00 = active CCP to be kept above the RSX.

CBF4 = SP preserved to insure a way out.
        226 bytes are needed for the RSX itself.

CB12-CBF3 RELOCATED CODE BLOCK
CBDD-CBF1   data segment
CB3B-CBDA  instruction segment
CB20-CB38   data segment
CB14-CB1D   instruction segment

D406 = the new second RSX.
CB18 = the new first RSX.

A0>
```

The RSX loaded below EZCPR by GUARD.COM prevents true warm boots and also blocks any program from overwriting EZCPR.

EZCPR.LBR also includes WIZ.COM, which is similar in concept and function to the ZCPR2 WHEEL.COM utility, and SYSTEM.COM, a useful memory map interpreter that provides a very complete report on the CP/M, ZCPR2 or EZCPR operating environment.

Although it looks like ZCPR2 to the user (the lack of warm boot messages when GUARD is up is the only real giveaway), its structure is quite different. ZCPR2 and ZCPR3 use buffers external to themselves for functions like multiple command lines, the command search path, named directory entry storage and the wheel byte, while the EZCPR, protected from warm boots by GUARD, has analogous data areas within itself.

> ***XCCP automatically searches drive A and user 0 for a ".COM" file... This is a real boon in that the system can now take real advantage of the user areas as an organizational tool, without duplicate copies of programs taking up disk space.***

EZCPR handles multiple command lines up to 128 characters long, an 8-element search path and up to 16 named directories. EZCPR's internal path and maximum drive/user-area can be altered and password protection added with the ZCPR2 GENINS.COM utility. Other ZCPR2 utilities can be adapted with GENINS to work effectively under EZCPR. Clear instructions for this procedure are found in the EZINS.HLP file provided with EZCPR.LBR,

Unlike XCCP, EZCPR supports the CMDRUN feature found in ZCPR2 and ZCPR3, although it is implemented somewhat differently. CMDRUN allows an extended command processor — typically a program like LRUN.COM (for more information on LRUN and CMDRUN, see issue #15), to attempt to match a command line not resolvable by resident commands or by ".COM" files along the command search path. Under ZCPR2 and ZCPR3, CMDRUN processing commences only after all other means have failed, while EZCPR goes into CMDRUN mode as soon as CMDRUN.COM (usually LRUN.COM renamed) is encountered on the command search path. This characteristic can be used to create some very sophisticated command processing options by placing different CMDRUN.COM programs in different *du*:s, although it takes some getting used to if you are accustomed to ZCPR2 or ZCPR3 CMDRUN conventions.

Although EZCPR lacks CCP-resident TYPE, DIR, REN and ERA commands (like XCCP), it does have a CP/M-compatible SAVE function. EZCPR supports SUBMIT file processing, but GUARD would undoubtedly pose insurmountable problems for EX14.COM. Like ZCPR2, EZCPR sets the high bit of the › character in the system prompt, a trait that can produce strange console output with some manufacturer's CP/M basic I/O system (BIOS) implementations. This is a merely cosmetic flaw, so whether it is tolerable or not is strictly a matter of aesthetics.

SETDRU — Skirting a Major Hurdle

One of the greatest virtues of ZCPR (and the preceding approximations) is the wholesale "opening up" of CP/M's user areas. With most CP/M-compatible software, a single copy of the relevant ".COM" file is all that is required — just put it where ZCPR can find it and you can use it from any drive or user area on the system.

Some multi-file commercial packages and a few public domain programs have serious problems, however, because they cannot "find" the file(s) they need to operate if invoked from a remote user area. WordStar, originally written in the days of single-sided single-density floppy drives and CP/M 1.4, cannot find its two overlay files (WSOVLY1.OVR and WSMSGS.OVR) under these circumstances and this has often led users (and some "experts") to the erroneous conclusion that ZCPR is not truly CP/M-compatible. Other programs which have similar difficulty range from oldies-but-goodies like Oasis Systems' The Word Plus package to more recent offerings. Borland's popular Turbo Pascal compiler/editor, for example, cannot find its error message overlay if invoked from a "foreign" user area.

SETDRU.COM, written by Michael Rubenstein and distributed on RCP/Ms in SETDRU13.LBR, is a convenient, beautifully documented program that can cure most cases of "can't-find-it-itis" without having to patch the offending application code directly. A menu-driven installation program, SETDRU.COM allows two major options. SETDRU can be installed into the program involved or created as a stand-alone 2K ".COM" file that invokes the actual application. Which method you choose depends on the program to be "treated". The documentation explains where each method is appropriate and gives several very clear examples.

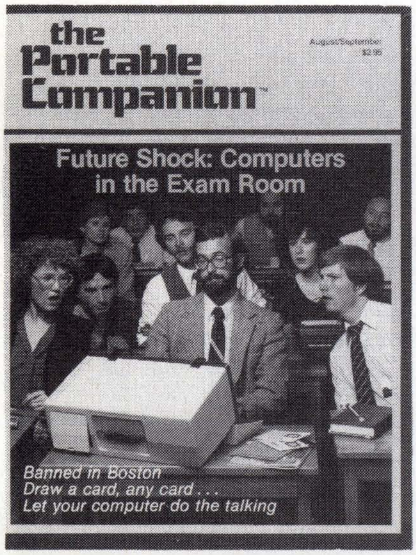
Regardless of how it is implemented by SETDRU.COM, the actual running code of SETDRU resides, RSX-like, in high memory while the application program involved is running, redirecting file-oriented BDOS calls involving the selected filenames to the drive and user area specified at installation time. Wildcard file specification is supported. The SETDRU user can force WordStar to look for its overlays in a specific drive and user area with a `*.OVR` filename specification at installation time. When such ambiguous file names are used, SETDRU first checks the default drive and user area for the file in question, then forces redirection to the specified *du*:; if an unambiguous file name is specified, redirection is forced immediately. Both types of

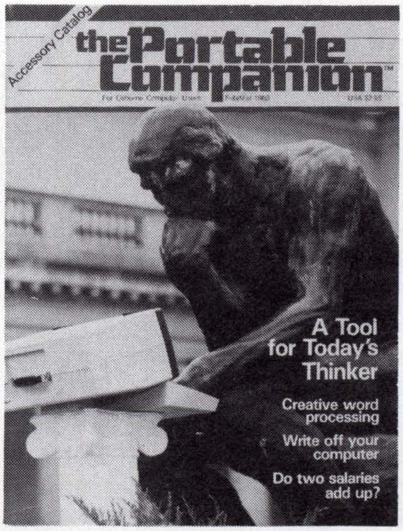
EDUCATE YOUR OSBORNE!

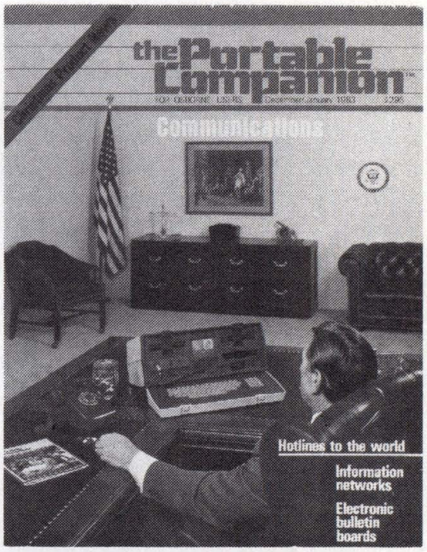
Subscribe Now to *THE PORTABLE* ***Companion!***

FOR OSBORNE COMPUTER USERS

Can you teach an Osborne new tricks? You can get the most from your investment in your Osborne computer by subscribing to *THE PORTABLE* ***Companion***. This magazine is distributed by subscription only, so order today!


the Portable Companion
August/September $2.95
Future Shock: Computers in the Exam Room
Banned in Boston
Draw a card, any card . . .
Let your computer do the talking


Accessory Catalog
the Portable Companion
A Tool for Today's Thinker
Creative word processing
Write off your computer
Do two salaries add up?


the Portable Companion
Communications
Hotlines to the world
Information networks
Electronic bulletin boards

☐ Send me **six issues of The Portable Companion** for $25, payment enclosed,

OR ☐ Bill me $28 for **six issues of The Portable Companion**.

☐ **Foreign** (prepaid US $$): Canada & Mexico $35/six issues, overseas $50/six issues (airmail).

Payment by charge card: ☐ Visa ☐ Mastercard Exp. date ________________

Card # ______________________________ Interbank # ____________________

Signature required: ____________________________ **TOTAL ORDER:** $__________

Name ____

Company ____________________ Title ______________________

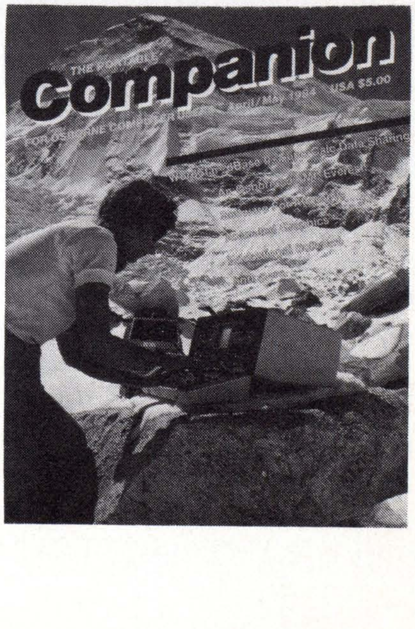
Address ____

City, State, Zip ______________________________________

☐ Check if you do not want promotional mailings.

Make checks payable to *Portable Companion*. Offer expires 12/31/85
Subscription Dept.: 42680 Christy St., Fremont, CA 94538.
Please allow 6-8 weeks for processing.

PC16d


Companion
USA $5.00

Circle number 19 on the reader service card.

file references can be used within the same SETDRU installation. The SETDRU running code is purged from memory when you exit the application.

PUBlic — A Personal Favorite

As well done as SETDRU is, it still requires you to go through a setup procedure for each application package requiring its services. The PUBlic patch to the CP/M 2.2 BDOS is an elegant, permanent solution to the user area problem. Originally developed by Plu*Perfect Systems for their CP/M 2.2E package (a popular Kaypro-specific CCP replacement), the PUBlic patch and its support software are now available from RCP/Ms as PUBPAT.LBR (also known as PUBPAT11.LBR).

What the PUBlic patch does is to create a "universal" user area, employing the otherwise unused file attribute bit two (setting the high bit of the second character in a file's directory entry on disk) to let the modified BDOS know that a file is PUBlic. A public file can be accessed from any logged-in user area, either by the user from the CCP prompt or by a program.

Installation of the patch requires use and knowledge of the CP/M SYSGEN and DDT utilities and a (very) little bit of hexadecimal arithmetic to determine your "system offset", but is quite straightforward as such things go. Once installed on your system tracks, PUBlic is transparent to other CP/M and ZCPR operations; however, most programs will no longer be able to reference PUBlic files with CP/M wildcard tchniques.

PUBPAT.LBR includes PUBLIC.COM, which sets and resets the PUBlic attribute and lists PUBlic files on the default or specified drive. Although other utilities can manipulate file attribute two, PUBLIC.COM is recommended because it guards against two or more files with the same name on the same drive being set PUBlic — a real "must to avoid" situation. Also included in PUBPAT.LBR are modified versions of two PD classics, SD.COM and Frank Gaude's DISK7.COM, that can list and manipulate PUBlic files.

The PUBlic patch gets my unqualified recommendation. It is a brilliant concept that neatly fills a major gap in ZCPR, one actually created by applications programmers who have written major commercial packages without regard for the existence of user areas. The CP/M user community owes Plu*Perfect head honcho Derek McKay and ace programmer Bridger Mitchell a major debt of gratitude.

DateStamper — A Timely Enhancement

DateStamper is Plu*Perfect Systems' latest commercial package and it is a real winner. It is available in several versions, one for Plu*Perfect's CP/M 2.2E, one for standard CP/M 2.2 on Kaypros, another for non-Kaypro CP/M 2.2 systems and a special variant for CP/M-compatible systems with non-standard BDOS implementations, including Echelon's ZRDOS. All of the myriad "flavors" of CP/M for Apple computers are supported, with the exception of CP/M 3.0.

What DateStamper does is to add a whole new category of information — *file history* — to the data available at the system level to the user and to application programs. By reading and writing to a small (usually 2K) data file, DateStamper "knows" when a file was initially created, last accessed (opened) and last modified.

Unlike XCCP, which goes its own way beyond a few ZCPR-like features, EZCPR is so much like ZCPR2 it's uncanny.

The actual real time input can come either from your system's real time clock circuit, if available, or from a date entered when the system is initially booted (ths is very much like being asked to enter the date by a remote system or by an application program like dBASE II), augmented by sequential count kept by DateStamper and called "relative" time. A couple of dozen pre-written clock driver modules are supplied with the DateStamper, while hackers with nonstandard clocks will find the assembly language clock driver format provided useful in developing their own code.

How It Works

The DateStamper running code is contained in its own loader program, DATSTAMP.COM. The code can be relocated in a number of ways. "Out of the box," DateStamper will load RSX-style, below the CCP. Once the user has gotten an idea of how DateStamper works, DATSTAMP can be altered, with the supplied SETUPDS.COM utility that also installs the clock driver, to load and run above CP/M if there is sufficient (between 800 and 1200 bytes, depending on the version of DateStamper) free memory available up there.

If not, the CP/M MOVCPM.COM program (if provided; some hardware vendors are quite delinquent about supplying working "non-essential" utilities) can be used to generate a slightly smaller system. Any unused "holes" above the BIOS — present in many ZCPR3 installations, for example — can be used (I didn't have to alter my 58K ZCPR3 setup at all) very efficiently by DateStamper because SETUPDS.COM can divide the necessary code into a DateStamper/clock-driver module and three reserved buffer areas that need not be adjacent in memory.

DATSTAMP.COM and SETUPDS.COM were undoubtedly very tricky to write, but the resulting versatility was well worth it. Also supplied on the DateStamper distribution disk are a stunning rewrite of SD.COM called SDD, which supports both DateStamper and PUBlic files as well as all other SD features, and DATSWEEP, possibly the most functionally and graphically elaborate file manipulation utility ever written for CP/M — ZCPR3's classy VFILER program is the only serious competition.

DATSWEEP.COM is over 30K long, but does its various jobs with such pizzaz (it's also the only way to copy a file with its DateStamper dossier intact) that you may well elect to make room for it. Unfortunately, DATSWEEP does not support squeezed file operations. The latest version of VFILER unsqueezes, Dave Rand's NSWP207 supports both USQ and SQ functions, and both are only 12K ".COM" files. Given the disk space (54K), I'd keep all three around.

Some commercial packages have serious problems because they cannot find their own overlay file(s) needed for operation if they are invoked from a remote user area.

The DateStamper package also includes PUTDS.COM, a sophisticated utility that prepares a disk for Datestamping by creating the required DateStamper data file, `!!!TIME&.DAT`. PUTDS not only creates the data file, it also puts it in the correct slot in the disk directory and manipulates the actual physical disk sector allocation to insure proper DateStamper operations.

Modified versions of the public domain SAP.COM (sort & pack) utility and of APPEND.COM, which allows concatenation of text files with time and date headers automatically inserted at the appropriate spots in the destination file, are also supplied wih DateStamper.

If you need to keep track of computer use for tax or billing purposes, you will find LOG.COM and TOTALLOG.COM useful; SETDATE.COM will be helpful to those lacking real time clocks or battery RTC backup. All versions of DateStamper come with DSCONFIG.COM, which allows menu-driven patching of various features of SDD, DATSWEEP, SETDATE, and DATSTAMP. The generic CP/M packages include SETTERM.COM, an easy-to-use terminal capabilities (TERMCAP) installer for screen-oriented Plu*Perfect utilities somewhat along the lines of Turbo Pascal's TINST.COM.

Plu*Perfect is also making a DateStamper "toolkit" of modified public domain programs and source code available. Among the most impressive programs on that disk are blockbuster revisions of the popular MCAT and XCAT disk cataloguing programs by Hal Bower, a Plu*Perfect associate who resides in West Germany.

In addition to DateStamper support, MCAT50 has a sorely needed, screen-oriented interactive mode, the ability to modify default parameters without reassembly, assignment of MAST.CAT to a non-default drive and user area, built-in MAST.CAT initialization, and disk volume labeling and purging (a very welcome improvement), all without leaving MCAT. Best of all, these features have been added without sacrificing the current MCAT45 command-driven mode. As a matter of fact, that aspect of MCAT operation has also been enhanced by the thoughtful Mr. Bower.

XCAT501 is also a significant improvement on its predecessor, XCAT42. It too now sports a screen-oriened interactive mode, selectable user areas for MAST.CAT and MAST.LST, listing of catalog entries in directories above user 15 and a search function that will often make separate find programs like FIND52.COM unnecessary and enable the user to do without MAST.LST entirely.

Both MCAT50 and XCAT501 are compatible with MAST.CAT and MAST.LST files created by earlier versions and can operate without DateStamper present if you are willing to do without time and date entries. Like PUBlic, SAP51, SDD and an upcoming CP/M-compatible version of the Unix MAKE program (that one will get some separate coverage here — *very* powerful!), MCAT50 and XCAT501 have been generously made available to users through public domain channels by Plu*Perfect - much appreciated, kind sirs!

Oops! No MEX

Here I am, well past 3000 words and I didn't even get to MEX. Oh well, next time for sure, along with conditionals (IF, ELSE, THEN, GOTO, etc.) in batch processing and some ZCPR3 techniques. Just one important news item: Steve Cohen (BIOS and option selection) and Richard Jacobson (documentation and packaging) have created a first-rate turnkey ZCPR3 installation for older (pre-1984) Kaypro 4's and 2's that follows the now classic 58K model established for newer Kaypros. Look for K83ZCPR3.LBR and enjoy the best single-user 8-bit operating system anywhere. Keep in touch....

```
A0:SYSTEM>BYE↵
```

We welcome your response to the material presented in this column, including questions, suggestions, criticisms, and approvals. Address correspondence to: **Advanced User Column/Bruce Morgen,** ***User's Guide,*** **PO Box 5245, Redwood City, CA 94063.**

You can also log onto the **User's Guide Bulletin Board,** (415) 367-1029, and leave an electronic message (sorry, at this time the system is for incoming only — it is too small to support a question/answer conference or libraries of public domain software).

SLEAZE PATROL/Arthur Naiman

NAIMAN GETS DOWN TO CASES

It's been over a year since I began this column, and what with constant apologizing for being too busy to write it, incessant moaning about my own troubles, and flamboyant digressions on various topics, I haven't gotten around to one of my main tasks—righting wrongs which have been brought to my attention by you, my esteemed readers. So I'll use this issue to report on my progress in that area.

Case #0000000001
Dr. William M. Crutcher vs. Univair, Inc. of St. Louis, Missouri

In January, 1983, Dr. Crutcher wrote Univair to complain about problems he was having using their accounting software on his Xerox 820 He enclosed the disks in the hope that Univair could modify them to make them work right, and $150 to cover the cost of the "upgrade." As he wrote out the check, he may have wondered if he wasn't throwing good money after bad. Well, he's not wondering any more.

By April, he still hadn't heard from Univair, so he wrote them again. In June, he finally received the disks, only to find that they didn't run at all. Crutcher called Univair several times and "finally reached someone who said that they would send me new software." He never got it. So in July, 1983, he returned the disks again, noting in his letter that he had called Univair so many times by then that the person answering their phone recognized his name.

In spite of all this, he didn't hear from them until *a year later,* when they sent him a *promotional mailing!* This prompted him to write again, but again there was no response.

Back in the dark ages before 1984, Dr. Crutcher would have been left with just three options—he could have complained (in this case, probably to Postal Inspectors, charging mail fraud); he could have taken legal action (which would have been difficult, given the fact that Univair is in another state, and which would hardly be worth doing for $150 in any case); or he could have simply written the money off. I was faced with the same unsatisfactory range of choices at about the same time (in the notorious Chicken Technology affair) and my solution was to found the Sleaze Patrol.

Dr. Crutcher was quick to take advantage of this dramatic new devlopment. In July, 1984, he wrote me to complain that he had been "rookeydooed" by Univair (how can you not want to help someone who uses a word like "rookeydooed?"). In May of this year (the wheels of the Sleaze Patrol grind slow but sure), I sent a letter to Univair's president telling him about this column and Dr. Crutcher's complaint to it, and asking for a response from him.

Univair responded by sending me—now get this—about two pounds of catalogs and order forms! (The catalogs were fairly interesting, though. Univair, it turns out, publishes a wide range of programs: not only general accounting software but also industry-specific management systems for everybody from insurance agents, real estate brokers, lawyers and doctors to dentists, orthodontists, chiropractors and veterinarians.)

Univair also wrote me a letter. They never *sent* it to me, of course, but you can't have everything. (To be fair, I suppose it's possible they did send it and it got lost in the mail; strange, though, that the catalogs got through OK and it didn't.)

GAR SMITH-85

In any case, Dr. Crutcher got a copy of it, and sent it on to me.

I was glad to get the letter, wherever it came from, because it's really bizarre. According to Scott Nielsen, Univair's president, "Dr. Crutcher sent his program disk in approximately a year ago and indicated we should keep it until further notice, and it has been in safekeeping ever since that time."

Now, why on God's green earth would Dr. Crutcher mail his disk to Univair for safekeeping? Was he afraid that Dallas (where he lives) was more susceptible to earthquakes, tornados, floods and nuclear attacks than St. Louis? And even if he did believe that, wasn't he going to pretty great lengths to protect a program disk he couldn't even use?

Regardless of Dr. Crutcher's presumed motivations, Univair is anxious to accomodate him. Having kept his disk under armed guard all this time, Mr. Nielsen is now perfectly happy to return it to him. His letter continues: "Inasmuch as it appears that Dr. Crutcher is now requesting his disk, it has been sent directly to his office, along with complimentary copies of our most current operator's

---

Copyright © 1985 Arthur Naiman

manual and start-up guide, which contain a considerable number of enhancements."

This pleased Dr. Crutcher, who wrote me to say: "A copy of Superledger came in the mail yesterday from Univair. Too bad I no longer user my old Xerox machine....Thanks for your help. The personal satisfaction is great!"

Dr. Crutcher was so pleased that he called Univair to find out how much it would cost to "upgrade" again, this time to MS DOS, so that "at least I might be able to do something with the program. I found that it would cost $300! That, plus the $150 that I sent for the upgrade in the first place would make that package cost $450. You can buy many good accounting packages for $450. As you might expect, I did not choose to 'upgrade'."

So—is this a victory of the forces of truth and justice? Well, you all have been informed about Dr. Crutcher's experience with Univair. He is out $150 (plus whatever he spent for the program in the first place), but that amount isn't likely to break him; as he said in several of his letters, he only pursued things as far as he did as a matter of principle. Unfortunately for Dr. Crutcher, though, he was also involved in another case, one that cost him quite a bit more...

Case #00000000002
Dr. William M. Crutcher vs. Articulate Publications of Santa Monica, California

Dr. Crutcher paid $2000 (no, that's not a typo—we're talking two big ones here) for a program called MicroMed. He tried to buy it straight from the publisher, Articulate Publications, when he saw it at a CP/M show in San Francisco in Februrary, 1983, and but they told him he had to go through their regional distributor, Texas Medical Computers. He could never get the program to run on his Xerox 820 (which apparently doesn't have enough "TPA," whatever that is), but neither the regional distributor nor the publisher would make good on it.

I wrote Articulate asking for their side of the story, but didn't get a reply. Dr. Crutcher writes that "it really hurts when I go to meetings and see vendors selling MicroMed that runs on IBM-XTs and apparently works fine. It cost me $2000 plus to find out that you can trust a software vendor about as far as I can throw a bull elephant!"

I have never met Dr. Crutcher; perhaps he is a giant of a man. But regardless of his size, I imagine that his ability to throw a bull elephant—or even an elephant cow or a calf—any appreciable distance is quite limited. This is unfortunate, because otherwise he could drop one on the principals of Articulate Publications and Texas Medical Computers.

Case #00000000003
Henry P. Seufert vs. Business Master of Carlsbad, California

In the summer of 1983, Mr. Seufert bought an accounting package called Business Master Plus for $295 (in other words, $300), but couldn't get it to work right. Over the next month, he wrote Business Master five letters about the problems he was having—all to no avail.

Business Master's only response to all this was a phone call in which they told Mr. Seufert's son to tell his father—who wasn't home—to read the manual. He had, of course, already done that..."about ten times." But it wasn't likely to help; as he pointed out, "I am an accountant with 33 years experience and 23 years in data processing and had difficulty with your manual. What can the poor businessman who buys your system be getting into?"

Frustrated by Business Master's attitude, Mr. Seufert wrote a letter of complaint to the magazine that had run their ad *(Personal Computing)* and to the California Attorney General's office. Then, as a last, desperate measure, he turned to...*the Sleaze Patrol!*

Acting with the speed for which I have become famous, I shot off a letter to Business Master just ten short months later (well, all right—they were normal-length months). When Business Master didn't respond, I wrote up the case for this column and marked it CLOSED. That should give you some idea of the power, the effectiveness, of the Sleaze Patrol.

Seriously, though, folks, there isn't much I can do besides write a letter and publicize the results. In most cases, that's enough. But if you really want to get your money back, you need to go to Small Claims Court (often just filing the suit is all that's required). It takes a little time (half an hour to file, a few hours to prepare and a couple of hours to appear), but it's easy, cheap and can even be fun.

In a future column, I'll give you a brief run-down on how Small Claims Courts work and how to deal most effectively with them. But this column is too long already, so let's move on to the last case.

Case #00000000004
W. F. Gephart vs. Computron of Edmonton, Alberta

Mr. Gephart was dissatisfied with two of Computron's programs—Fast Format and Fast Copy—for which he paid $30. Specifically, he couldn't get format disks on his Kaypro 10 that were readable on a Kaypro 2, as promised in the ad run by their publisher, a Canadian company called Computron. On April 30, 1984, he wrote them to complain.

Computron's president, Michael Alkalay, wrote back very promptly (on May 8) to say that "whilst [how can you distrust somebody who uses the word "whilst?"] I am saddened that you did not take the trouble to contact us first, but instead immediately took the stance that we are unscrupulous and dishonest, I will nonetheless attempt to address the points raised in your letter." He then proceeded to do that, ending by remarking that "we have a reputation for quality and service that we are not likely to want to harm by supplying nonfunctional software."

Mr. Alkalay's letter didn't adequately address Mr. Gephart's concerns, however, and Gephart wrote back on May 21 to say why. He never got a response. In his letter to me, Mr. Gephart states, "This is a case where the product didn't do all that it claimed, was only marginally superior in what it did do [only 12% faster], and where the firm alibied about its failure."

I was about to send Computron a letter asking them for their reaction to all this, when I noticed a section of Mr. Alkalay's letter that read: "rest assured that unless you are completely satisfied, you are always welcome to return the product for a courteous refund or exchange." So I wrote Mr. Gephart instead, pointing out that the simplest solution would be for him to take Computron up on this offer.

Computron has been about as responsive as you can expect a company to be; even their failure to respond to Mr. Gephart's second letter is understandable, given how little money was involved—especially since they had offered him a refund if he wanted one.

* * *

Well, that's the disposition of the four cases you have seen fit to vouchsafe to my care. You don't have to be Sherlock Holmes to notice that all of them are a year or two old. Now that I have finished the books I was writing, any further matters referred to me will be attended to much, much more promptly.

And I do hope you will send some, not only because I can't write this column without them, but also because I genuinely get a kick out of helping people put the screws to companies who have screwed them. It's not for nothing that I have a sampler hanging on my wall that reads:

Give me your ired, your skewered,
Your befuddled masses yearning to be sleaze-free,
The ripped-off refuse of your scheming stores.
Send these, the hopeless, money lost, to me:
I thrust my lance and even up the scores.

So keep those cards and letters pouring in, and I promise to get my lance in gear a whole lot faster from now on.

Who is Arthur Naiman?

Arthur Naiman is the author of eight books, seven of which are introductory works about personal computers. He is best known for his *Introduction to WordStar* (Sybex), which has sold well over 150,000 copies, at prices ranging from $10 to $18, since it was first published in the spring of 1982. Now in its third edition, the book continues to sell at a rate of about 3500 copies a month.

Introduction to WordStar has been translated into French, German, Swedish, Japanese and Dutch, with editions forthcoming in Italian, Finnish and Indonesian. The *New York Times* called it "a wise investment," the *Reader's Guide to Microcomputer Books* gave it a score of 95 (the highest rating for any book on word processing and 35 points ahead of its main competitor) and Stewart Brand, writing in the *Whole Earth Software Catalog*, simply described it as "the best."

Naiman's second book about computers (published in the spring of 1983) was *Word Processing Buyer's Guide* (McGraw-Hill). *Esquire* called it "a thoughtful, useful book" and Art Kleiner, former editor of the *Whole Earth Review*, wrote: "this book is impeccable....Though I'm usually bored by computer books after the first two pages, I read this all the way through in one sitting."

In the fall of 1983, Naiman published *Computer Dictionary for Beginners* (Ballantine) and *The First Book to Read about the IBM Personal Computer* (Houghton Mifflin). *Personal Computing* called the first "extremely useful and informative" and *Publishers Weekly* described the second as "a good book to read if you're seriously considering a PC."

In the spring of 1984, Naiman's *Introduction to the Lisa* (Addison Wesley) was published. *Popular Computing* called it "a refreshingly concise, effective work" and "an unqualified success. It's difficult to imagine any user not being able to build an almost instant mastery of [the] Lisa with an assist from this book."

Naiman's two most recent books are *What Every Kid (and Adult) Should Know about Computers* (spring, 1985) and *MacBook: the Indispensible Guide to Macintosh Software and Hardware* (summer, 1985—both from Hayden). In addition to writing *What Every Kid Should Know*, Naiman packaged it—that is, he hired and supervised the people who designed, illustrated, photgraphed and typeset the book.

Naiman became a computer author more or less by accident—he wrote his first book, *Every Goy's Guide to Common Jewish Expressions*, on a computer and fell in love with them. *Every Goy's Guide* was originally published as a trade paperback by Houghton Mifflin in the fall of 1981, and was reissued in a mass market edition by Ballantine in the winter of 1983.

Carroll O'Conner (famous for his portrayal of that archtypical goy, Archie Bunker) feels the book "should be a part of every goy's library," Henny Youngman says it's "fantastic," and Alice Kahn (who invented the word "yuppie") calls it "the only book you need in the bathroom—the only one I have in mine."

Naiman has also published many shorter works—articles, booklets, speeches—and writes a regular column for *User's Guide* magazine; called *The Sleaze Patrol*, its goal is to "expose to the searing light of day those who seek to dishonor and debase our beloved microcomputer community." He self-publishes a map of (and guide to) Berkeley, California and its enivrons which has sold more than 25,000 copies.

Before writing books, Naiman worked as an advertising copywriter and creative director, producing thousands of newspaper and magazine ads, radio and television commercials, brochures, posters, billboards, etc., for major New York agencies and freelance on both coasts. In addition to creating the ads, he was extensively involved in print, film, video and radio production.

He has taught emotionally disturbed grammar school kids and normal and "socially maladjusted" high school and junior high students, for whom he developed original curricula in English, French, art, science, history, geography, creative writing, anthropology, sociology, ethics and other subjects. More recently, he's taught writing to adults at a number of different schools.

Naiman has travelled widely and speaks execrable French. He has done standup comedy, led whitewater raft trips, manufactured the original LBJ dartboards, been a photographer and an abstract-expressionist painter, sold shoes in a store and socks door-to-door, dubbed foreign films into English, driven a cab, and taught biology to wayward girls in a convent.

This article was completely typeset using a Macintosh computer and LaserWriter at the ComputerCraft store in Palo Alto, CA.

New Products *continued from page 57.*

tact: MISCO, Inc., One MISCO Plaza, Holmdel, NJ 07733. (201) 264-8200.

Circle 58 — reader service card.

Citizen America Sponsors CPA Awards

The Computer Press Association announced the First Annual Computer Press Awards competition. Sponsored by Citizen America Corporation, the awards will be presented at Comdex/Spring 1986.

Prizes will be awarded for outstanding published writing on computer related topics in the trade and general press, in books, in documentation and through electronic newsletters. Entries can be submitted by anyone, including the author or publisher. There is no entry fee or entry form and no limit to the number of submissions from any author or publication.

Entries will be judged by a Computer Press Association panel, members of which will be announced at a later date.

Entry: Original or photocopy of the work along with a note stating the author, publication, issue date, contact at the publication, and entry category.

Either original or photocopied submissions may be entered, but each entry must be accompanied by a note listing the author, publication, issue date, contact at the publication, and entry category. In the case of on-line entries, provide a hardcopy of the on-line material. Entries should be sent to The Computer Press Association, PO Box 49229, Los Angeles, CA 90049.

The deadline for submissions for the 1985 awards is January 31, 1986 (for material published or copyrighted between January 1 and December 31, 1985). Entries will not be returned.

"The time has come to recognize the contribution that writers and journalists are making to the information industries," said Dana Blankenhorn, president of the Computer Press Association.

"One of the reasons we formed this organization was to promote good writing," added Hal Glatzer, vice president of the association. "We feel it's time to reward the people and publications who do it best."

"Citizen America is very proud to be the sponsor of these awards," said Bob Adam, director of marketing communications for the printer and peripherals manufacturer. "Reporting on high technology requires sophistication and a very broad range of knowledge. We consider these journalists the unsung heroes of the industry and Citizen is delighted to participate in the recognition of their talent."

The entry categories are:

Documentation — Hardware manuals, software manuals, on-line tutorials.

Books — How-to and product specific, general non-fiction, fiction with a computer angle.

Articles — In computer publications (both press and on-line): Feature articles, news reports, reviews, columns, opinions. — In non-computer publications (both press and on-line): Feature articles, news reports, reviews, columns, opinions.

Meritorious Computer Publication — Magazine, newspaper, newsletter, On-line.

For more information and to submit entries: Computer Press Associ-

Z SETS YOU FREE!

Z Operating System, an 8-bit OS that flies! Optimized HD64180/Z80 assembly language code — full software development system with proven linkable libraries of productive subroutines — relocating (ROM and RAM) macro assembler, linker, librarian, cross-reference table generator, debuggers, translators and disassemblers — ready to free you!

High performance and flexibility! Productivity results from dynamically customized OS environments, matching operator, tasks and machine.

Real-time control kernel option allows quick software development for industrial control applications, other tools and utilities for office desk-top personal computing functions, local area networks to Ethernet, AppleTalk, Omninet, ArcNet, PC-Net (Sytek) — from micro to mainframe command, control and communications. Distributed processing application programs are easily developed.

- Extreme organizational flexibility, each directory another environment
- Multiple Commands per line
- Aliases (complex series of commands known by simple names) with variable passing
- Named Directories with absolute password security
- Full-screen command line editing with previous command recall and execution
- Shells and Menu Generators, with shell variables
- Command-file search Paths, dynamically alterable
- Screen-oriented file manipulation and automatic archiving and backup
- 512 megabyte file sizes, 8 gigabyte disks handled
- Auto disk reset when changing floppies
- TCAP database handles characteristics of over 50 computers and terminals, more easily added
- Tree-structured online help and documentation subsystem
- 76 syntax-compatible support utilities

Your missing link has been found — Z! Now fly with eagles! Fast response, efficient resource utilization, link to rest of computing world — shop floor to executive suite, micro to corporate mainframe. Call 415/948-3820 for literature.

Echelon, Inc. 101 First Street • Suite 427 • Los Altos, CA 94022 • 415/948-3820

Circle 10 on your reader service card.

ation, P.O. Box 49229, Los Angeles, CA 90049.

Videotex/Teletext Book

Practical in approach and comprehensive in scope, *Videotex/Teletext: Principles and Practices* by Antone F. Alber not only explains exactly how videotex and teletext function, but also describes in detail the impact they will have on the ways people live and work.

Covering everything from the components of a system through the planning and implementation of a system, this guide offers an in-depth study of the commercial prospects and opportunities of videotex and teletext systems — exploring the economic, marketing, and social issues involved. Intended for both consumers and entrepreneurs, it presents a thorough examination of all aspects of the videotex and teletext information revolution.

Full discussions are devoted to such varied topics as the major costs of operating a videotex or teletext service, the type of revenues that may be realized, the selection of what goes into the information base, the creation of text and graphic displays, and approaches to selling videotex or teletext. The sections on the components of an interactive videotex system emphasize the service provider's side, the transmission network, and subscriber equipment.

Alber gives complete details on the regulation and policy issues, security and privacy questions, and such social implications as the ecological impact, sociopolitical factors, and services for the deaf and visually handicapped. He includes two appendices: a glossary of videotex and teletext terms and a listing of frequently encountered acronyms and abbreviations with their meanings.

Antone F. Alber, PhD, is a professor of management at Bradley University, concentrating on the area of business computer systems. His book, published by McGraw-Hill, sells for $32.95.

For more information, contact: Professional and General Books, McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, NY 10020. (212) 512-3493.

Circle 57 — reader service card.

Polaroid's New Disks, $5^{1}/_{4}$" and $3^{1}/_{2}$" Unconditionally Guaranteed

New $5^{1}/_{4}$" high-density disks and $3^{1}/_{2}$" high-density micro-disks are available from Polaroid Corporation. The $5^{1}/_{4}$" double-sided disks provide 1,600,000 bytes (over 1.5 megabytes) unformatted magnetic media storage capacity. The single-sided $3^{1}/_{2}$" micro-disks provide 500,000 bytes unformatted magnetic media storage capacity.

Polaroid disks are certified to be 100% error-free, and are enclosed in heavy-duty grey vinyl jackets that resist warping from radiant heat or frequent handling. The jacket has a continuous seal to provide maximum protection from dust and debris.

A two-piece non-woven liner continuously cleans the disk surface in use to keep the head access window free of fiber debris. The disk center hole is reinforced with a gold hub ring to reduce wear and aid in long-life accurate alignment within a disk drive. Polaroid backs its disks with a full 20-year warranty. Ship damaged disks to Polaroid's data recovery facility, and, at no charge to the user, a damaged disk is reconditioned and restored to an operative state, and the data recovered (with an initial success rate of 98%, after extensive research and testing)..

The double-sided $5^{1}/_{4}$-inch 96 TPI (tracks per inch) high-density disks are available in 10-unit packs at a list price of $82.95. Ten-unit packs of single-sided $3^{1}/_{2}$-inch 135 TPI high-density disks retail at a suggested list price of $79.95.

For more information, contact: Polaroid, 575 Technology Square, Cambridge, MA 02139. (617) 577-2000.

Circle 60 — reader service card.

More communications power — less cost

THIS MODEM

DELIVERS!

The **VISIONARY 1200XT** fully-buffered modem provides you with advanced features that allow you to send and receive messages or data at any time. Even if your computer is turned off! With its built-in memory buffer, real-time clock/calendar and simple english language commands you can:

- Send or receive TELEX messages from your word processor to anywhere in the world.
- Have your modem *automatically* pick up your electronic mail (e.g. EasyLink or MCI Mail) at regular intervals.
- Broadcast messages to a whole network of personal computers, redialing lines that are busy or not answered.

Only with the VISIONARY 1200XT do you get:

- Full Battery Back-up of *all files.*
- Auto Log-on and data-capturing capability.
- *Full* Hayes compatibility.
- No hidden costs for expansion boards or extra displays.

ONLY

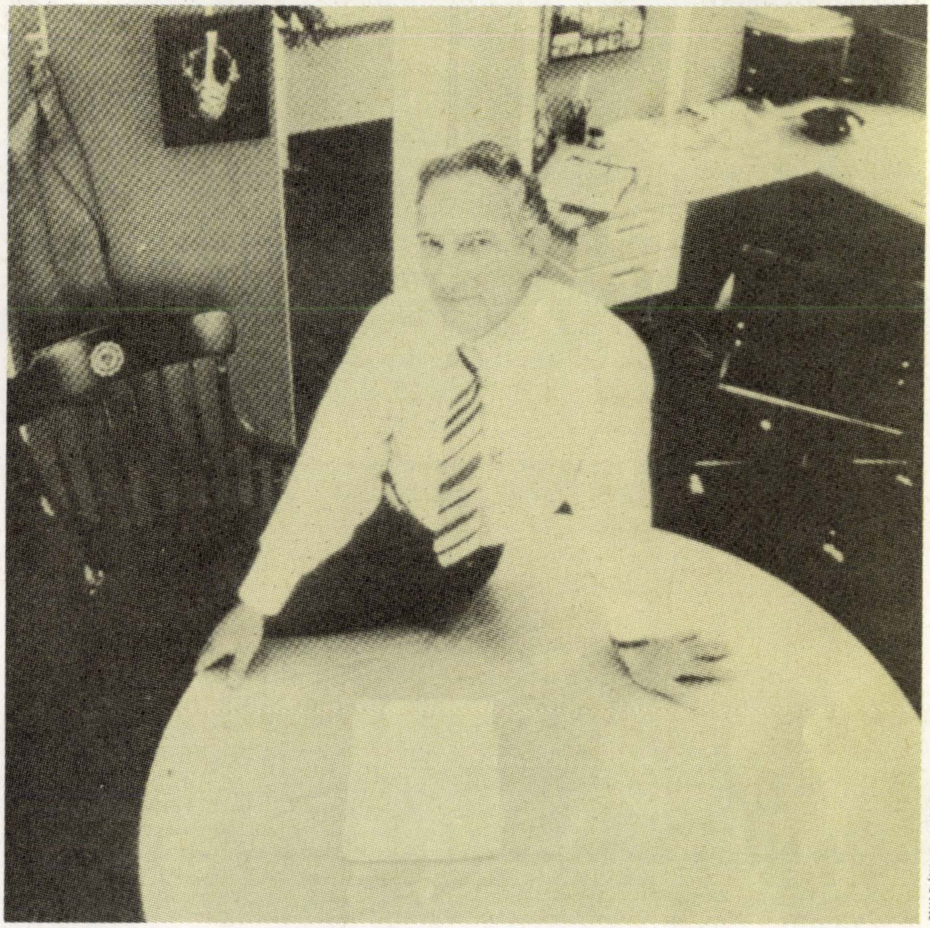
$495

Visionary vei Electronics
Incorporated
141 Parker Avenue • San Francisco, CA 94118
415 751-8811

Circle number 23 on the reader service card.

The Inventors of the Chip

The Chip
T.R. Reid
Simon and Schuster, 1985
$15.95
243 pages, hardcover



Chuck O'Rear, *Time*

Bob Noyce, courtesy of Simon & Schuster.

Without the chip, many of the modern-day miracles we take for granted — personal computers, space shuttles, artificial hearts, intelligent toasters, and talking cars and elevators —might still be the stuff of science fiction. The microchip is one of the most significant inventions in the history of mankind.

In *The Chip*, *Washington Post* reporter T.R. Reid pays due homage to the micro miracle in silicon. In spite of the book's "techno title", its subtitle ("How Two Americans Invented the Microchip and Launched a Revolution") reveals *The Chip*'s primary interest: people. The two Americans are Jack Kilby, currently a "free-lance inventor", and Robert Noyce, founder and vice chairman of Intel Corporation.

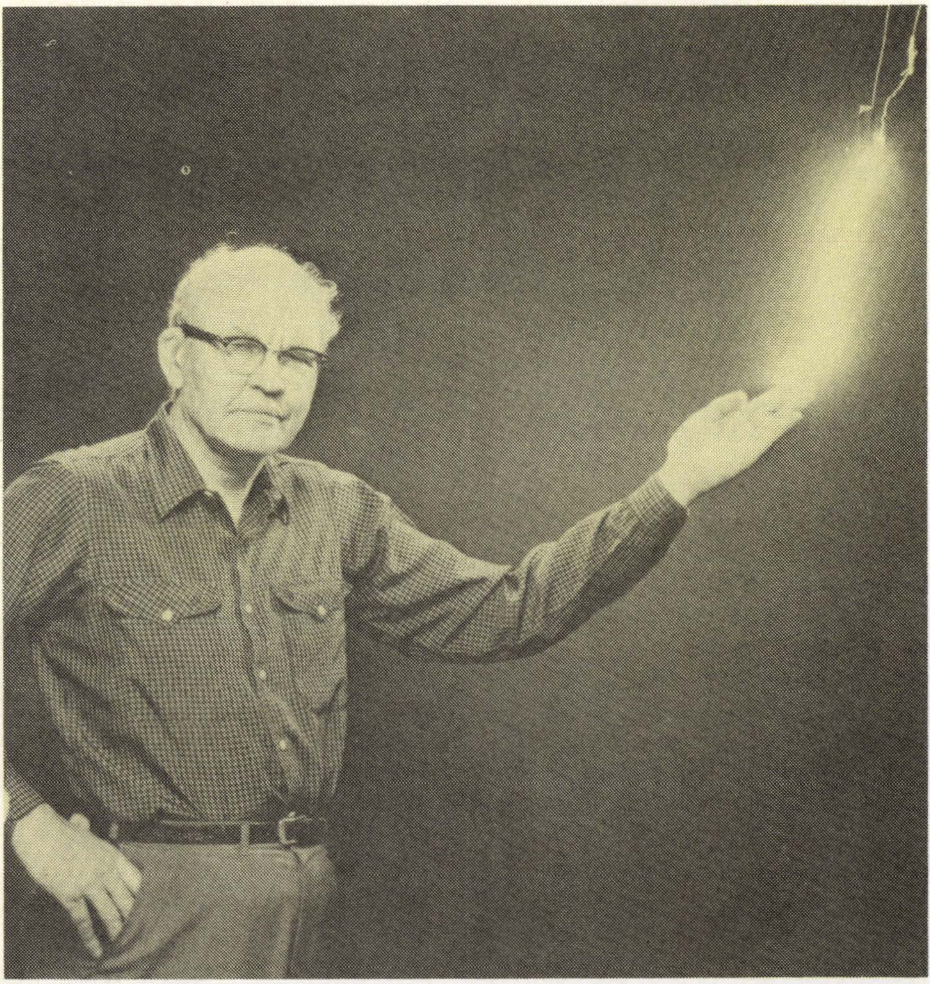
Kilby was employed at the upstart company Texas Instruments when he came up with the idea of an integrated circuit; Noyce was at Fairchild Camera and Instrument, one of Silicon Valley's first high-tech companies and a spin-off from Shockley Transistor Laboratories, the pioneering Silicon Valley firm of William Shockley, inventor of the transistor.

Noyce eventually left Fairchild and founded Intel. He made a lot of money and became a spokesman for the American semiconductor industry.

Kilby and Noyce almost simultaneously seized on the "monolithic idea" that laid the groundwork for the chip's invention, yet, according to Reid, they are virtually unknown by the American public. Reid says the reason for their relative obscurity has to do with the nature and general perception of their invention. He believes that most Americans think of computers as "being intelligent ...having a brain." Since computers and chips present the illusion of being sentient, people tend to forget that their "brains" are the product of human invention.

Reid makes a compelling case for the transcendence of human spirit and intellect. As he points out several times, chips and computers have no intelligence; they merely work incredibly fast. The only intelligence

Copyright © 1985 John Barry


Ken Kirkley

Jack Kilby, courtesy of Simon & Schuster.

manifested in the chip is the human genius that went into its creation.

The creation of the Chip was the near-simultaneous conception of these two men — Kilby, an Apollonian problem-solver; Noyce, a flamboyant risk-taker. Although their approaches were different, their backgrounds had many similarities. Both were born in the Midwest, and both showed an early interest in finding out how things worked. They also shared a wariness of obvious solutions to problems.

Before Reid tells the story of these two men and their invention, he sets the stage for the development of the chip. The stage-setting takes us back to Thomas Edison's invention of the light bulb, which eventually served as the inspiration for the vacuum tube, the mainstay of digital computers until the invention of the transistor.

The tube first gained prominence as a component of radios. Ironically, widespread use of semiconductor crystals for radio receivers was rejected for commercial reasons in the early part of the century. Reid suggests that the chip might have evolved much sooner if crystals hadn't been overlooked for so long in favor of tubes.

Kilby continued to do what he did best — solve problems and invent. He obtained a patent on the pocket electronic calculator for Texas Instruments.

When William Shockley and his associates invented the transistor in 1947, the day of the tube was over; but the transistor soon presented a problem of its own: "the tyranny of numbers".

Limitations of the transistor soon became apparent. Transistors were great for, say, radios; interconnecting the numbers of transistors needed for high-level computer applications was too cumbersome and costly, though. When Kilby and Noyce, working independently, came up with the "monolithic idea", they had theoretically solved the problem.

> *The Monolithic Idea resolved the tyranny of number by reducing the number to one: a complete circuit would consist of one part — a single ("monolithic") block of semiconductor material containing all the components and all the interconnections of the most complex circuit design.*

At this point, *The Chip* takes on the flavor of a suspense story. The corporate worlds in which the two men labored did not appreciate their efforts enough to start applying for patents immediately. Things languished at both companies until each firm started hearing rumors that someone else had a similar product in the works. Only then did the patent efforts begin in earnest.

Kilby's design featured *flying wires* (wire connections actually looped over the top of the chip), although his patent application stated that the connections could be "laid down on" the chip. In Noyce's design, the interconnections were actually etched into the chip.

Kilby's application arrived at the patent office first, and his lab notes clearly showed that he had begun work on the monolithic idea first — although not much before Noyce had. Nevertheless, two years later, the patent office gave its imprimatur to Noyce.

Kilby's attorneys appealed; the tide turned in his favor. Noyce appealed, and the tide turned again. The main points of debate were the so-called

The Washington Post

The author, T. R. Reid.

flying wire and the semantic nuances of the term "laid down on". The patent imbroglio dragged on.

Finally, it was time to make a deal. Fairchild and Texas Instruments each agreed that the other company had some rights to the invention. Both firms would grant licenses to each other for integrated-circuit production. Other companies that wanted to enter the market had to arrange a separate licensing deal with Fairchild and Texas Instruments.

Fairchild and Texas Instruments each agreed that the other company had some rights to the invention. Both firms would grant licenses to each other for integrated-circuit production.

Kilby and Noyce were both awarded the National Medal of Science, after the scientific community agreed to agree that the two men had been coinventors of the integrated circuit. Kilby was credited with integrated components on a chip; Noyce got credit for figuring out a practical way to connect the components.

Their lives after that took divergent paths. Kilby continued to do what he did best — solve problems and invent. He obtained a patent on the pocket electronic calculator for Texas Instruments, and, in typical bureaucratic fashion, the company continued to kick him into upper management positions. He finally left full-time employment with the firm to pursue the unlucrative life of free-lance inventing.

Noyce eventually left Fairchild and founded Intel. He made a lot of money and became a spokesman for the American semiconductor industry when threats from Japanese semiconductor manufacturers became tangible, and Americans began to carp about government subsidization of Japanese high-tech industry.

Reid points out that, in effect, government subsidies got the semiconductor industry off the ground in the USA. Because of the initial high cost of chips, sales were sluggish. The space race spurred sales of semiconductors, starting in 1961 with Kennedy's stated desire for America to be first on the moon. Then, as now, the military had few qualms about spending money.

Over the years, chip prices have dropped dramatically; today, chips are everywhere — unlike the names of the device's inventors.

The Chip is a compelling story of the inventors of the integrated circuit, events that set the stage for its invention, and the ramifications of its invention. In weaving all this material together, Reid does occasionally get sidetracked — with an overly long treatment of the threat from the Japanese, for example. After a chapter replete with explanations of binary arithmetic, someone's brain must have been scrambled. In one paragraph, the book has Noyce at age 41 in 1969. Three paragraphs later, he's celebrating his 50th birthday in 1983.

The Chip may stand out from other recent "high-tech history" books (e.g., the history of Commodore, the history of Silicon Valley) in having more mass appeal. If such is the case, T.R. Reid will have done his part to make the inventors of a device as significant as the light bulb and the telephone (whom everyone knows) a little less obscure.

Desktop Publishing™

Announcing a new magazine for publishers, writers, graphic designers, artists and corporate publishing departments, with feature articles on do-it-yourself publishing and reviews of the newest products.

Desktop Publishing will include tutorials on using products available for personal computer users in the desktop publishing market, and application techniques and suggestions on how to produce more appealing graphics and use good-looking typefaces.

Desktop Publishing will be filled with techniques for producing high-quality typesetting and graphics. You'll learn how to use laser printers, page makup software, painting and drafting programs, phototypesetting by computer. You'll discover the latest product offerings from companies that specialize in desktop publishing products. You'll be able to brush up on design techniques and visual judgement.

The writers are expert users of personal computers in writing, designing, editing and publishing. The feature tutorials are original and innovative. The columns are focused on real publishing issues, and they answer users' specific questions.

Order your subscription to *Desktop Publishing* today, so that you can take advantage of this **CHARTER OFFER: the first issue free with your paid subscription — seven issues for the price of six. And our low introductory rate applies — a six-issue subscription (or seven if you pay now) is only $24. So act now!**

Desktop Publishing — for anyone who publishes information with computers.

Send $24 to:
Desktop Publishing
TUG Inc.
P.O. Box 5245
Redwood City, CA 94061
(415) 364-0108

Circle 8 — reader service card.

MICRO USER'S MARKET

Bargain Basement

CP/M systems for sale

- **CompuPro 8/16 with 85/88 CPU, 128K, DSDD floppy disk drives (1.2M per disk), CP/M-80 and CP/M-86, WordStar version 3.0, MailMerge, SpellStar, SuperCalc, dBASE II, WRITE, Documate/Plus. $1950.**
- Old generic CP/M S-100 bus system (1981 model), clunky but functionally perfect, with programmable keyboard. 11 inch Hitachi monitor, SSSD floppy disk drives (241K per disk), CP/M-80 version 2.2, WordStar version 3.0, MailMerge, SpellStar, the Word Plus, Documate Plus, Grammatik, SmartKeyII, WRITE, NAD, QSORT, CBASIC, all documentation. **$575.**
- NEC Spinwriter 5500 letter quality printer, 55cps bi-directional, fantastically reliable, tractor feed, 15 fabric ribbons, re-inking machines, refillable film ribbons. **$775.**
- Last two items together, $1250. All three items, $2950.

For sale by *User's Guide* columnist Arthur Naiman, (415) 528-3546. Call anytime.

Software/Languages

BDS C - For Developers

Our C compiler was designed especially for the impatient programmer: the compilation/linkage speed leaves every other C compiler in the dust. Execution is really quick, too! BDS C comes with a symbolic debugger, library sources, overlay linker, a MODEM program, and other utilities... 480K of stuff for $150.

BDSoftware, Inc.

BD Software, Inc.
P.O. Box 2368
Cambridge, MA 02238
(617) 576-3828

MBASIC Cross-Reference Utility

BASICREF.COM cross-references variables and line numbers to help you track down redundant or extra variables. FAST!!! Screen, file or printer output. Customizable external dictionary. A must for all BASIC programmers. Just $19.95 (foreign add $5). Most CP/M 5.25" and IBM PC and compatibles.

LTA Associates
7 Ledge Street
Stoneham, MA 02180

Software

Supplement your child's education

with disks prepared by educators for pre-school through middle school. Each offers at least 6 different programs for verbal and non-verbal areas. $27/disk. Programs (MBASIC) run on machines reading Kaypro or Osborne disks. Also for IBM PC, PC Jr. (DOS). We encourage inquiries for descriptive literature.

Maji-Miti
P.O. Box 3244 WVS
Kamuela, HI 96743
SMAIL STE413
(808) 883-9055

Backup/Restore

Flexible Hard Disk Protection

BackRest provides turnkey backup and restore with full error handling, splitting large files to multiple floppies, bad sector lockout, fault tolerant restoration, informative reports and more. BackRest installs with an interactive installation program. Full DOS Subdirectory and CP/M User support. $180.00.

Stok Software Inc.

Stok Software, Inc.
17 West 17th St.
New York, NY 10011
(212) 243-1444

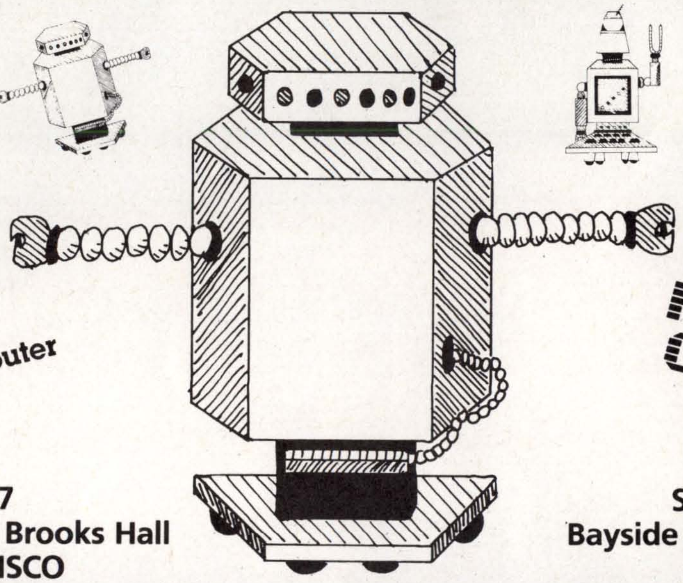
Books

CP/M User's Guide

Get the complete tutorial on CP/M, CP/M Plus and CP/M-86: *CP/M User's Guide* by Bove & Rhodes for the Jerry Pournelle user's guide series (Baen Books, distributed by Simon & Schuster Mass Merchandise Sales Co.). Order it from your local book store or write to:

Simon & Schuster
Mass Merchandise Sales Co.
1230 Ave. of the Americas
New York, NY 10020

User's Guide magazine is introducing a new section of classified ads called **Micro User's Market**, designed to provide affordable advertising. For $245, we will run your 300-character descriptive ad for three consecutive issues; or for $445 we will run your ad for six consecutive issues. Call Annie Warren at (415) 364-0108.



Thousands of computers are gathering in San Francisco & Boston

3rd Personal Computer Faire

Sept. 5–7
Civic Auditorium & Brooks Hall
SAN FRANCISCO

THE 8TH NORTHEAST COMPUTER FAIRE

Sept. 26–29
Bayside Exposition Center
BOSTON

You won't want to miss these great shows!

- **Thousands of Computer Products** exhibited by hundreds of leading and innovative companies, including IBM, Apple, and many others.
- **Special Areas For "Hands-On" Demos.**
- **A Comprehensive Conference Program** (included in admission) attracting industry speakers and computer users from business, education, government and scientific, engineering & research communities.
- **Professional Development Seminars.**
- **Free One-On-One Consultations.**
- **Incredible "Show Pricing"** on all kinds of products.

CORPORATE OFFICE
Computer Faire, Inc.
181 Wells Avenue
Newton, MA 02159

WEST COAST OFFICE
Computer Faire, Inc.
611 Veterans Boulevard
Redwood City, CA 94063

An exclusive production of **Computer Faire, Inc.**/A Prentice-Hall Company

At this first-rate event, you can comparison shop for all the leading personal computers, add-ons and software, question factory experts about the capabilities of their machines, participate in computer demonstrations and take in a conference program that includes over 40 sessions and panels. If you decide to buy at the show, you'll save hundreds, even thousands of dollars; everything on display is for sale at super show prices!

Please send me information on attendee preregistration discounts.

Name ____________________

Company ____________________

Street ____________________

City/Town __________ State _____ Zip __________

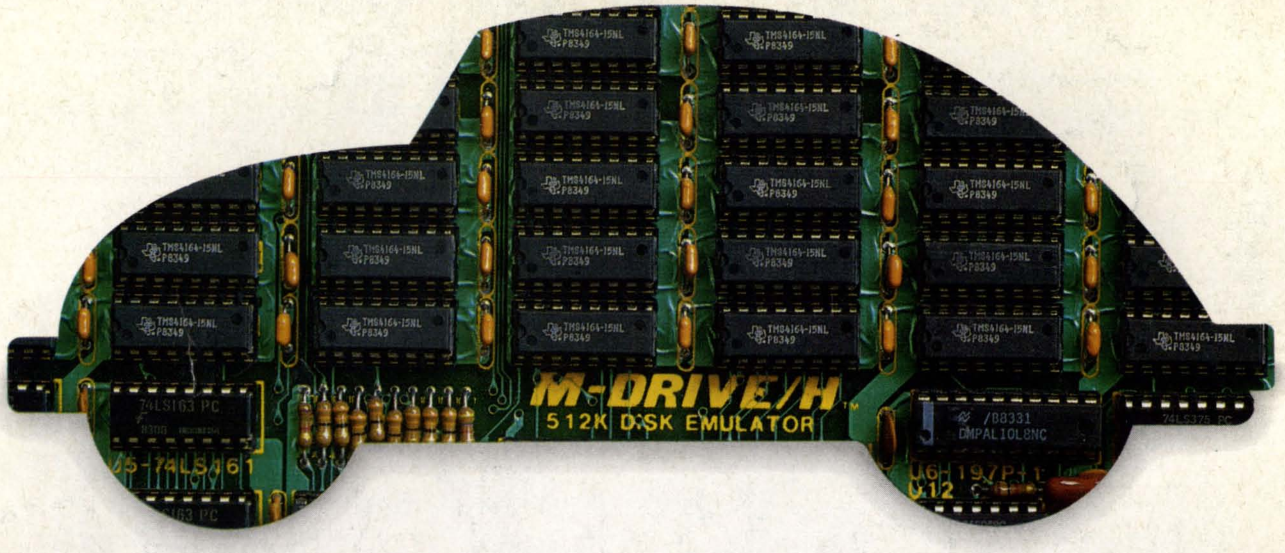
Phone ____________________

I would like to ☐ Attend ☐ Exhibit
☐ 3rd Personal Computer Faire
☐ 8th Northeast Computer Faire

Send this coupon to:
Computer Faire, Inc.
181 Wells Avenue
Newton, MA 02159
You can call us at **(617) 965-8350.**

USE

Circle number 6 on the reader service card.



You can still buy quality and dependability at a reasonable price.

That's exactly what we drive home at Viasyn. We offer you a whole line of CompuPro® IEEE 696/S-100 Bus boards. Along with single- and multi-user systems compatible with over 3,000 standard business applications, plus a wide variety of scientific and industrial programs. Each one's a value our competition finds hard to beat.

You can choose from a broad range of CPU boards, memory boards, disk controllers, network and interface boards, plus PC Video, in color or black and white. You can mix or match 8-bit and 16-bit software on the same machine or on different machines. And pick just the power and memory you need. Object: to grow and multiply in capabilities, at optimum cost efficiencies. Without sacrificing quality or dependability.

If that's what you're driving for, write us for our new short-form catalog or simply call our toll-free number.

VIASYN™
The CompuPro People

Where Computers Grow

3506 Breakwater Court, Hayward, CA 94545
Call 800/VIASYN-1. In CA, 800/VIASYN-2. TWX: 510-100-3288 VIASYN CORP

CompuPro is a registered trademark of Viasyn Corporation.

Circle number 22 on the reader service card.